August

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AMAZING STORIES

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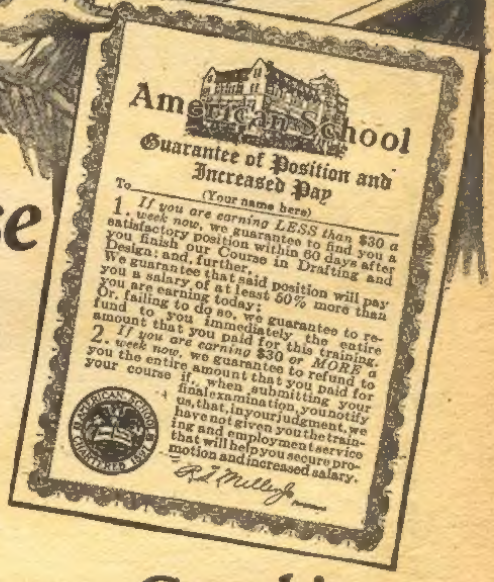
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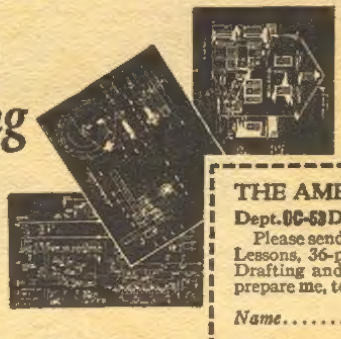

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Age.....*Occupation*.....

JULES VERNE'S TOMBSTONE AT AMIENS PORTRAYING HIS IMMORTALITY

AMAZING STORIES

August, 1929
Vol. 4, No. 5

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Our Cover

this month illustrates a scene from the story entitled "Barton's Island," by Harl Vincent, in which is shown the electric long-distance hypnotic ball, a new invention of Philip Barton's, with which he succeeds in completely incapacitating one of the important members of the secret council, just as he is preparing a catastrophic stroke.

In Our Next Issue:

GOLD DUST AND STAR DUST, by Cyril G. Wates. This time our first prize winning author tackles the fourth dimension—a favorite subject about which so much is written and so little is known. It is no wonder the author finds it necessary to put a detective on the job.

THE RED PERIL, by Capt. S. P. Meek, U. S. A. If it is interesting to watch the advance of the Machine Age, it is equally interesting and perhaps more important to give a thought to the possibilities of future warfare. Being an army man himself, our author goes beyond the "war in the air" period and shows us possibilities far more dangerous.

THE YOUNG OLD MAN, by Earl L. Bell. When the meaning of electricity is discovered, many new, and today unthought of, uses would probably be found for it. For instance, if by a strong enough electric shock, life can be taken away, might it not also be a means for making or perpetuating life? It is an interesting theme to play with and Mr. Bell does so in a manner absorbing to the reader.

OUT OF THE VOID (an interplanetary serial in 2 parts), Part II, by Leslie F. Stone. The concluding chapters of this story gain momentum as they proceed. The adventures of Dana Gleason on this planetoid beyond Mars are particularly fascinating because of the wealth of scientific detail that is included in the story.

THE TWENTY-FIRST CENTURY LIMITED, by Paul Slachta. It is hardly likely that the flying experts of today will be content to stay for the next hundred years or more within the altitudes already reached. Mr. Slachta draws an exceedingly plausible picture of the comparatively near future. It is a great deal more than a story of aviation.

THE DOG'S SIXTH SENSE, by W. Alexander. What is it that enables a dog to understand his master's wishes and commands? What would be likely to happen if this extra sense—and there must be one—were combined with man's intelligence? Much might happen—and much does happen in the story.

THE WHITE ARMY, by Dr. Daniel Dressler. Even the layman is greatly concerned over the mechanism and mechanical arrangement of various machines. Only the human machine seems to be taken entirely for granted and is treated with a vast amount of indifference. Yet it is the most marvelous machine of all, and as yet has not been capable of reproduction in even the slightest degree. Dr. Dressler, with an expert's knowledge on the subject, weaves a romance around it, worthy of anybody's careful study.

THE CORAL EXPERIMENT, by Alexander Snyder. If you are a dentist, you will be interested in this story, professionally. If you are not a dentist, the interest will be entirely personal. Anyway, you ought to know what it is all about.

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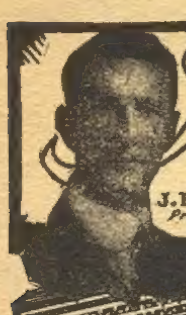
To ambitious men and young men who are awake to the opportunities in RADIO



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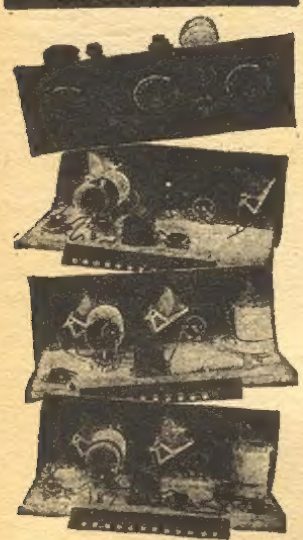

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Dept. 9VTT
National Radio Institute
Washington, D. C.

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AS-8-29

VOLUME 4

AMAZING STORIES

THE MAGAZINE OF SCIENTIFICTION

AUGUST, 1929
No. 5

ARTHUR H. LYNCH, *Editorial Director*

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Extravagant Fiction Today - - - - - - - - - - Cold Fact To-morrow

Waste Space

By T. O'Conor Sloane, Ph.D.

IN many cases, space is so abundant that there is no object in economizing. Yet as a matter of geometry, to say nothing of other scientific aspects, it is interesting to consider the economy of space. Often, when we wish to get as near perfection as possible, we go to nature for our teacher, for she far excels us. Economy of space, however is affected by various circumstances, which in a sense makes it undesirable to attain. If we go to geometry, we will find that the largest volume of space to be enclosed by the smallest partition is a sphere. Thus baseballs are very economical in the quantity of horsehide with which they are supposed to be covered.

Now, it so happens that mankind works with tubes and other volumes constructed on the basis of angles. Boxes have their top, bottom and sides all at right angles, practically. They may be long, short, high or low; in the great majority of cases all the enclosing parts, metal or pasteboard, are at right angles, one to the other. Here there is no economy of wood or of other enclosing material. If we want to adhere to the idea of economizing our boards, and do not abandon the right angle construction, the best we can do is to make a cube of our box.

It is interesting to recall the fact that the Chinese, who are very wonderful artists in their own way, adhere pretty closely to the cube in making their tea boxes. If we wish to construct a house, with the greatest economy of enclosing wall and roof and floor, we should make it cubical—its height, width and depth equal. This, of course, is based on the assumption that there is only one floor. An extra floor would complicate the problem a little.

The bee gives a wonderful example of this economy. Its hexagonal cells with so many "party walls" exhibit the greatest economy in material for that type of enclosure. The stems of vegetable vegetation are circular in cross-section and represent an economy of space where indeed it would seem to be hardly needed.

An interesting example of a sphere in the engineering world, is the spherical gas-holder, which has been introduced in the field of gas-making, and which is sometimes of very large dimensions, and holds gas under considerable pressure, perhaps containing three or four times its own volume. Fruits, you will notice, incline very much to the spherical, so we can see that nature does economize.

Now suppose we go to the opposite extreme, and consider examples of the most reckless waste of space. We need go to no greater space waster than Mother Nature. Let us take the Solar System. If the volumes of the planets were added together, and compared with the volume of space which is devoted to them, the waste involved would appear prodigious. The sun, in a general way, occupies the center of the planetary system. It radiates heat and light in all directions. If we let the outermost planet give us a radius of a sphere, a proportionately infinitesimal amount of heat radiated by the sun will be received by it and the other planets. Nature is even a greater waster than she is an economizer. If separate calculation were made for each planet, taking its distance from the sun as the radius of a sphere, the waste would be found to be incredibly great. And this is the identical waste that has been going on for ages and is still going on. Our sun, the glory of the planetary system, may be called an abominable waster, and all the good that we get out of it in the way of light and heat seems infinitesimal compared to what it is radiating into space. As far as we know, this heat is absolutely wasted.

And let us consider another point. According to the modern conception of the atom, it is a small planetary system. It is inconceivably minute, but is supposed to be made up of parts which are far more infinitesimal. It is supposed to be composed of a nucleus, around which negative electrons are in constant motion, like the planets around our sun. In other words, an atom is supposed to consist principally of empty space, whose volume is determined by the orbits of the planetary electrons, as they are sometimes called. The atom is a miniature planetary system with the same waste of space that characterizes the Solar System. On this modern theory of the atom, it is fair to say that a lump of lead, heavy as it is, impervious to almost everything, is principally vacuum or plain nothing. On this theory, the atom represents an enormous waste of space.

For proper and industrious conduct of life, the sluggard is told to go to the ant to consider his ways and be wise. In opposition to this, we may say, if you want to learn how to economize space and radiated energy, do not go to nature. If you do consider her ways, you will often find it advisable to practice the opposite as far as economy of mechanical energy is concerned.

They spoke in hushed voices and one of their number, Kirk Paulson by name, held the attention of the group for the moment. A tall, well-knit young man he was, with the high forehead and solemn eyes of the student. So straight were his shoulders and so haughty his mien that the gray denim of the toiler suited him ill.

"Friends," he whispered, "this is the work of Jerome Carter. Philip Barton has become too strong and it is decreed by the dictator that he must go. Fools that we of the despised gray have been, to tolerate conditions as they have developed during the past thirty-eight years! It were better had our parents perished in the great war with the millions of foolish unfortunates of the Eastern Hemisphere."

"But what can we do?" asked one of the listeners.

"Our time will come," replied the speaker. "As you all know, I am employed in Barton's laboratory and have been educated with his assistance. I am probably closer to the real Philip Barton than any of his associates, and I have anticipated a move of this sort for some time. And I know much that is not known by Carter and his council of ten. Though they have learned of his sympathies, they have not discovered his secret laboratory where such discoveries are hidden as will revolutionize our world, and pave the way for the freedom of the masses. I cannot tell you more, since the pillars about us may have ears, but I can assure you, that this move of the dictator's will serve only to precipitate the action, which must eventually have been taken by the great inventor."

At that moment a red-coated guard stepped from the shadows and roughly seized a slight wisp of a girl, who lingered near the outskirts of the group. The girl screamed, and, with a roar like a bull, Kirk Paulson tore through the little company and landed a terrific blow on the chin of the officer, who still held the girl's thin arm in his crunching grip. It was a staggering punch, and the guard reeled and released his grasp of the sobbing young woman. But he recovered and, placing his whistle to his lips, blew a shrill blast that would bring a dozen minions of the law to his assistance. Once more Kirk swung, this time with all the power of his trained right arm. The guard lay still where he fell.

"Now, we're in for it," gasped Kirk. "This way, friends."

He ducked behind an adjoining pillar and the greater part of the group trooped after him. A few of the fainter-hearted ran for shelter in other directions, as several more of the red guards appeared on the scene, but at least twelve followed into the shadows that lay beyond the confines of the square. A light pop from a stubby weapon in the hand of one of the guards sent a missile spinning through the air—a soft, rubbery something that struck the rearmost of Kirk's followers squarely in the middle of the back with a squashing sound and immediately wrapped twining coils of its material about his body, gripping arms and legs securely and bringing him to the pavement in a helpless heap.

"Run, run," shouted Kirk, darting into a dark passageway. He drew back at the entrance and allowed the rest of the panting, stumbling humans to pass. When the last one had entered, he flung himself against the heavy door and slammed it shut, shooting the bolt just as the officers reached it.

THE passage was almost dark, being illuminated only by a narrow beam of light that filtered through an imperfect floor joint somewhere above. But this was sufficient to reveal the figures of his frightened followers huddled together only a short distance ahead.

He produced an electric torch as the pounding on the door became louder and more insistent. The welcome radiance of its beam cast grotesque shadows of the trembling, gray-clad fugitives on the walls of the damp and little-used passage, and a feeling of pity surged through him as he observed their beseeching, fear-ridden countenances.

"Follow me, friends," he called out cheerfully, leading the way into another passage where a second door was bolted behind them.

They clattered down a winding stair that finally brought them to a chamber with circular stone walls and an opening in the center of its floor. Through this opening dropped the leader and, one by one, his companions followed. They found themselves in another passage which ended at a metal door of polished newness. Kirk Paulson placed his lips close to a disk of shiny black that was set in the exact center of the door and spoke a word in a low tone of voice. The door slowly opened, revealing the brightly lighted cage of a lift.

"We're safe, friends," he exulted; "at least for a time."

When all had crowded into the lift, he spoke another word of command into a disk adjoining the automatic operating mechanism on the wall of the cage, and, with gradually increasing speed, they started upward. Up, up sped the lift until it seemed they must have reached the roof of the city, two hundred and fifty levels above their previous position. Then the motion slowed down and soon ceased, the cage coming to a rest at a gleaming metal door, similar to the one through which they had entered at the base of the shaft. At a word from their leader, this door opened as had the other, and they emerged wonderingly into clean brilliant sunlight.

They were not on the roof; rather they were under its crystal expanse and in the most amazing room they had ever entered. Along the walls were many benches, whereon reposed strange machines, retorts, beakers, and the many instruments and supplies that make up a complete laboratory equipment. Kirk laughed at the bewilderment of his flock.

"This is Barton's laboratory," he announced.

Philip Barton hurried in at this moment and, at sight of the group of gray-clad refugees, he uttered an exclamation of surprise, not unmixed with pleasure.

"Why, Kirk," he exclaimed, "what brings you here, with so many of your followers? You have heard the news?"

"Yes, Philip," was the reply. "And I have brought this company by means of the secret lift. We were dispersed by the red guards in the square and were forced to flee."

"Are your companions all trustworthy?"

"Yes, indeed. They are all personally known to me and I can vouch for each and every one."

"Then, by George, you shall all accompany me into exile. Are you willing?"

The response was overwhelmingly affirmative, the frightened faces of Kirk's followers taking on a sud-

den change in expression—a gleam of hope that transfigured them one and all.

"Then you must be hidden immediately," continued Barton. "Lead them into the secret compartments of the Inquisitor, Kirk. The deportation committee will be here shortly."

"Thank you, Philip," said Kirk, hustling his charges across the great laboratory to the sliding doors that communicated with the huge chamber which housed Barton's new air yacht, the Inquisitor.

THEY had no sooner left the room, than the committee appointed to arrange for the banishment of the Barton party arrived on the scene. These included several purple-clad members of the Secret Service, and, though Jerome Carter had taken great pains to keep his name from being linked with the proceedings, Barton knew his handiwork as well as he did the faces of certain of his henchmen among the committee. The committee was followed by President Haven, who entered with bowed head and with trembling fingers resting on the arm of his daughter, Mona Barton. With them were two of Philip's trusted friends, who, Carter had suggested might accompany him—in fact the suggestion had been so strongly urged upon the President that he found it advisable to add their names to the decree of banishment. One of these friends was Jack Sterns, commander of the Pacific Coast Air Patrol, the other Thomas Easton, Chief Chemist of the Synthetic Food Products Corporation.

President Haven extended his hand to Barton, keeping his eyes assiduously from those of the younger man.

"It's all right, Dad," whispered Barton, giving the trembling hand a friendly squeeze, "I understand. And, don't worry about Mona. We shall outwit Carter and will return victorious one of these fine days. I have a plan—but can not explain now. We will be reported dead, but pay no attention—it is to be a ruse of my own devising. I shall find means of communicating with you secretly. Keep a stiff upper lip now—the committee is approaching."

The President now met the steady eyes of the younger man—met them unwaveringly through the film of tears which suddenly covered his own.

"God bless you, my boy," he said.

THE chairman of the committee, Randall Haines, who had cordially detested Philip Barton since college days, now approached the exiled inventor and stared insolently at him.

"All right, Barton," he growled. "You know the instructions. You and Mrs. Barton and your two friends may as well board the Inquisitor at once. Your belongings have been stored on board, and all necessary supplies for your journey are stowed away in the vessel. Get moving now."

Philip Barton deigned no reply, but gently disengaged his wife's arms from about the neck of her father and led her sobbing to the entrance of the Inquisitor's berth. President Haven stood, a forlorn and helpless figure, alone in the midst of the intricate equipments of the laboratory where Barton had spent the greater part of his time for more than twelve years past. He attempted a smile as Philip and Mona bid him a last farewell at the sliding doors, but in this he failed miserably.

Barton's small party was conducted to the entrance of the Inquisitor, and, after his three companions passed within, the inventor was detained by Randall Haines.

"Philip," remarked the chairman, gloatingly, "you are to follow instructions to the letter. There is no escape from the decree signed by your honored father-in-law. You are to proceed with all speed to Biscoe Island, in the Antarctic, uninhabited since the great war. There you will find ample opportunity to cool off and to meditate on the foolhardiness of your recent activities. In that far-off land you will find many problems that will tax your incomparable inventive genius—but your main problem will be to keep alive and well. Remember, your every move from the moment your vessel leaves its berth will be followed in the screens of the Secret Service detectoscopes—your activities on Biscoe Island will be under the constant scrutiny of operatives of the Department. Should you endeavor to escape the mandate, you will be trailed by one of the swiftest air patrol vessels of the Service and shot down without mercy. Now, go!"

Without reply, Barton entered his vessel and slammed the door on the laughter of Haines and the other members of the committee. He bolted the door firmly in its air-tight casing and proceeded at once to the navigating cabin where he found his companions waiting. His wife was still in tears and he patted her hand comfortingly as he stepped to her side.

"Don't feel badly, dear," he said. "Everything is for the best and we are going to outmaneuver them yet. Trust in me."

"All right, Philip," she said, smiling bravely. "You know best. And it could not be helped, anyway."

Philip stepped to the control platform and waved a mocking salute through the port window to the purple-coated committee that stood stolidly waiting for his departure.

"Farewell," he chuckled inaudibly. "You are due for a shock before long."

Haines had pulled a lever alongside the hull of the vessel and huge sliding panels in the crystal roof overhead slipped back, leaving a clear rectangular opening to the outer air. Philip manipulated the controls and the Inquisitor rose vertically from its cradle, soaring rapidly to a great height above the crystal expanse of the city's upper surface. Mona and Jack Sterns gazed through one of the lower windows at the swiftly receding black rectangle, that marked the spot they had left. Tom Easton stared moodily at the unfamiliar instruments to which Philip Barton paid such close attention.

"Well, so far so good," laughed Philip. "Their surprise comes later."

There was no reply from his companions, and he swung the nose of the vessel about and headed due south. The shimmering expanse of the world's largest city rapidly faded from view, and they were soon out over the Atlantic off the coast of New Jersey, speeding southward at five hundred miles an hour, with the tumbling waters some twenty thousand feet below.

In the Inquisitor

ALMOST entirely a product of Philip Barton's genius, the Inquisitor was much that it did not appear to be. It had been carefully searched by Carter's henchmen, but to them it presented no fea-

tures differing greatly from the many private air yachts of the wealthy class. But a number of secret compartments had escaped their careful scrutiny and in these were many things that would have astounded them. Hidden also from alien eyes was Kirk Paulson and his group of friends.

Philip Barton, immensely wealthy by inheritance, was of atavistic type. Early in life he had rebelled against the selfishness and arrogance of his class. Not yet two years of age at the conclusion of the great war, he had grown up with the generation of profiteers who had increased their wealth enormously, and concentrated it in powerful groups, which eventually obtained complete control of the government. When he was still in his teens he had his first encounter with the greatest of the industrial giants, Jerome Carter. He had taken an instinctive dislike to the man, and, as he matured, he watched the unbelievable increase in the man's wealth and power. Deeply interested in engineering, he had applied himself assiduously to his studies, but this had not prevented him from acquainting himself with conditions among the working classes, which had grown rapidly worse under the increasing dominance of Jerome Carter. His interest in the multitude in gray increased as their misfortunes piled up and became more and more unbearable. But his inventive genius was of such value that he was practically commandeered by the government, and had, of late years, been very carefully watched and guarded.

Seeing that his beloved country was headed for disaster and for an industrial revolution of colossal magnitude, he bent his thoughts and efforts toward a solution of the difficulties and the prevention of the seemingly unavoidable catastrophe. His secret experiments were conducted in a laboratory he had cleverly concealed in the quarters assigned to his use by the government, and the secret equipment of this laboratory was transferred to a hidden compartment of the Inquisitor, when it was completed.

His inventions were in use throughout the civilized world, and were of inestimable value, particularly in the field of air travel. It had been his discoveries that revolutionized aviation in 2219 and brought him into prominence in the engineering fraternity at the early age of thirty. For nearly three centuries previously the relation of the gravitational to the electro-magnetic field was known, it having been proved mathematically in the twentieth century. But it remained for Philip Barton to discover means of utilizing this knowledge for the benefit of mankind. His method of producing contra-gravitational fields had eliminated the use of wings and vertical lifting propellers on all types of air craft. And later his reaction motor obviated the necessity of the horizontal propellers as well, and provided not only much greater fuel economy, but entire independence of the density of air as a medium for obtaining propulsive effect.

The engine room of the Inquisitor was provided with two contra-field generators, each of sufficient power to support the vessel when fully loaded. These generators were of the most improved type, and were connected to fore and aft pole pieces from whence the contra-gravity flux emanated. When these were energized, a field was produced that could be varied in intensity at will, as well as reversed if the necessity arose. The basic discovery of the graviton had led Barton to the development of this unique apparatus, and the zenith of perfection had been reached in this particular portion of the Inquisitor's mechanism. The graviton, be it remembered, was identified by Barton in the laboratory as a close analogy to the magneton, that final element of magnetism whose relation to magnetism is similar to that of the electron to electricity. Its relation to the earth's gravity field being determined, it was a logical, though by no means a simple, step to the artificial generation of gravitons, both positive and negative. The method of producing a negative gravitonic field surrounding two poles composed of the metal bartonite was his final development, and the world found itself in the possession of a practical means of getting away from the surface of the earth by the repulsive force of the opposing fields.

Earlier types of air craft using the Barton gravitonic field were propelled horizontally by the old style, inefficient propeller, drawing them through the air at speeds not much in excess of three hundred miles an hour, when driven by an electric motor that obtained its power from the energy broadcasts of the Etheric Power Syndicate. Philip's next efforts were along the lines of improving the method of propulsion, and, after much research, he developed the reaction motor, which soon superseded the antiquated propeller drive. His compounding of the new alloy, extron, provided a material that gave off great quantities of electrons when subjected to an electric current, which heated it to not more than 180 degrees Fahrenheit. The reaction motor was a simple mechanism resembling an electric furnace to which was attached a lengthy tube of insulating material having an inside diameter of nine inches.

The Inquisitor was provided with seven of these motors in the stern and five in the bow, their twelve-foot lengths of tube radiating in the several directions necessary to permit of discharging their high velocity ionic streams at any desired angle to provide for the driving and steering and stopping of the vessel. The discharge ends of the tubes were set flush with the outer surface of the hull, and the extron chambers at the inner ends were of sufficient capacity to contain material for a journey of twenty hours' duration without recharging, the heating elements being energized by collectors, that obtained power from the above named Syndicate.

As a precautionary measure against the possible, though not probable, failure of both gravitonic field generators, two reaction motors were installed in a vertical position so that their repelling streams could be directed earthward. While not of sufficient power to support the vessel completely, nor to propel it vertically, these motors would prevent its falling with great enough speed to cause serious damage, thus providing a valuable safety device.

As a private air yacht, the Inquisitor was the equal of any in United North America. In other respects it was far superior to any. Of true streamline shape, two hundred feet in length and with a maximum diameter of fifty feet, it was a thing of beauty as its silvery nose pushed southward over the course prescribed by the banishment decree. Its luxurious suites and cabins were unoccupied and silent. Philip and his three companions remained in the navigating cabin until the coast line was lost to view.

* * *

JACK STERNS broke the silence. "She sure is a beauty," he said, referring to the vessel, "Too bad we're not on a pleasure trip rather than speeding toward heaven knows what hardships—thanks to Jerome Carter."

"Oh," said Philip, "there won't be many hardships. We are not going to Biscoe Island, as Carter so fondly imagines."

"We're not?" asked his wife in astonishment.

"No, my dear Mona, we're not," he replied. "And within two hours the newscasters will have spread the tidings throughout our native land that the Inquisitor has plunged into the ocean, with all occupants lost."

His listeners gasped in surprise. "But it will not be true?" asked Mona.

"It'll be true as far as our plunging into the ocean is concerned, said Philip, "but we'll all be alive and well and on our way to an entirely different portion of the globe than Carter intended."

"How on earth are you going to do it?" asked Tom Easton.

"Quite simply," Philip replied. "And now I must take you folks into my confidence. The Inquisitor is not what it seems. Or rather, it is much more than it seems. In addition to being a fine air yacht, it is a submarine. Its double cellular hull and transparent viewing ports are designed to withstand external pressures as great as one thousand pounds per square inch of surface. I have arranged for some stage effects that will convince the watchers at the Secret Service detectoscopes that we have met with an accident. A charge of flash powder has been concealed in the engine room and this will be set off electrically when I press a hidden button at the control board here. The resulting flare and smoke cloud will do no damage but will completely obscure the engine room from view of the watchers and will give the impression that serious damage has resulted. Then we must do some acting ourselves—pretend extreme fear, despair and demoralization, while the Inquisitor does a nose-dive into the Atlantic, where the searching and penetrating rays of the detectoscopes can not follow. A short journey under water will throw them off the track and we can emerge later and continue on our way—but not to Biscoe Island."

He grinned appreciatively at the exclamations of surprise that greeted this announcement.

"They can not overhear our conversations with their detectoscopes, can they?" asked Mona anxiously.

"No, indeed, though I have an instrument hidden aboard, with which that very thing can be accomplished. What is more, there are many things in the Inquisitor which they can not even see, though they are watching us closely at this moment, and we must be careful that our expressions do not betray the trend of our conversation. For one thing there are twelve other persons on board whom you have not seen."

"Why—where on earth can they be?" asked Tom, "and who are they?"

"There are several secret compartments in the Inquisitor. These are lined with neutroloy, an alloy I have perfected, which is impervious to the searching and penetrating rays of the detectoscope. In one of these compartments is my assistant, Kirk Paulson, together with eleven of his friends in gray."

"How wonderful!" exclaimed Mona. "Kirk is a dear. Are there any women?"

"Yes," answered her husband. "There are at least four, maybe five. I was too hurried to count when I came upon them in the laboratory. They escaped the red guards in Cooper Square and Kirk brought them to my laboratory just before we left."

"But," interrupted Jack Sterns, "can't our friends back in New York and Washington discover with their detectoscopes that there are such compartments that are invisible to them? Won't they encounter blank or opaque spaces with their penetrating rays?"

"No. That is a peculiar property of neutroloy. While it is impervious to the rays as far as disclosing an enclosed object is concerned, it is transparent to them as regards objects on the far side of the enclosing chamber. They may search the entire ship and will be unable to find any unaccounted-for space."

"SUPPOSE Carter plans treachery," suggested Tom. "Suppose this banishment decree is only a blind to deceive the public and that he actually intends to destroy us. He might easily order the Power Syndicate to contrive an accident and cut off the power broadcast."

"I have anticipated that possibility also," replied Philip. "In one of the secret compartments there is a complete generating equipment, which can be started at a moment's notice, and which would supply sufficient power to carry us to our destination."

"There is not much you haven't thought of, is there?" asked Jack admiringly.

"I hope not," was the anxious reply. "Our enemies are not stupid, you know. They may have a trick or two up their sleeves I have not thought of. But I guess we are all right."

"But where are we going, Philip?" asked Mona.

"There is an island of volcanic origin off the west coast of Africa which has never been inhabited or even named. But it is habitable and rich in natural resources. This island appeared above the surface of the ocean only about ten years before the great war and has never been exploited. I have visited it and found it a fine place. From there we shall conduct the long-range activities that are to save our country and our compatriots."

"It is way over my head," complained Tom, "but evidently you know what you are talking about. I'll not be surprised at anything after what you told us."

Mona Barton looked thoughtfully at her husband. His fine, aristocratic features were fixed in the expression of forced despondency, they had all adopted for the benefit of the detectoscope watchers. But she made out a twinkle in his eye, which could not quite be controlled.

"Just about time for the fireworks," he announced. "We are about half way between Savannah and Bermuda and I guess this is about as good a place as any to go to Davy Jones' locker. Remember the play-acting now."

With a barely perceptible movement of his hand he pressed the hidden button and there was a muffled, rumbling report from the engine room below.

His companions feigned violent starts of surprise and Jack Sterns rose to the occasion nobly by rushing to the engine room and opening the door sufficiently to allow a cloud of dense white smoke to issue from it into the corridor. He returned to the navigating cabin,

and, with gestures of excitement, told of his findings. Mona wrung her hands at the news and found some little difficulty in maintaining her expression of fear and hopelessness. She wanted rather to laugh.

Philip simulated the frantic manipulation of controls of a pilot, who suddenly found his power fail and his vessel out of control. Actually he was adjusting the speed and angle of descent to provide for a safe dive into the dark waters that quickly loomed close. The descent seemed sickeningly rapid and the angle of the vessel was so steep that the passengers in the navigating cabin found difficulty in maintaining their positions. It was not necessary for the others to act their parts now for they were actually frightened at the swiftness with which the ocean rushed to meet them. Closer and closer they drew to the tumbling surface, and, with a shock that threw them into a heap against the forward wall of the cabin, the Inquisitor pitched nose foremost into the deep.

The Inquisitor Disappears

BEFORE the screen of a detectoscope in one of the offices of the Secret Service in Washington sat Randall Haines and two of his subordinate officers. The view on the screen was that of the interior of the navigating cabin of the Inquisitor. One of the officers kept his fingers on the focus and magnification controls of the instrument to maintain a clear image as the distance to the speeding vessel gradually increased.

"None of them have left the navigating cabin," said one of the watchers, "And they don't appear as worried as one would expect under the circumstances."

"Oh," sneered Haines, "Barton is a cool one, Olsen. He has probably told the others he would fix everything so they need not fear anything unpleasant. But he little knows what is waiting for them at Biscoe Island."

But at that moment the passengers of the Inquisitor betrayed astonishment and fear in the countenances pictured so faithfully in the detectoscope screen.

"By George, something's happened!" exclaimed Haines, as they watched Jack Sterns rush from the navigating cabin in obvious excitement.

Olsen speedily readjusted the penetrating and focusing controls of the instrument and they followed Sterns' movements as he hastened to the engine room and opened the door. Haines shouted his glee as a cloud of dense white smoke issued from the door and Sterns slammed it shut and ran to the navigating cabin with the news. The penetrating ray of the instrument was directed into the heart of the engine room but all that could be seen was dim outlines of the machinery around which there swirled the heavy clouds of smoke. It was quite apparent that an explosion had occurred and, when a view of the navigating cabin was again returned to the screen, the expressions on the passengers' faces gave unmistakable evidence of their knowledge of the seriousness of the situation. Haines chuckled gloatingly as Philip Barton struggled frantically with the controls.

"Barton's end comes even sooner than we expected," he chortled. "The Inquisitor is falling already. Let's watch it from the exterior, Olsen."

With further manipulation of the detectoscope controls, and the shutting off of the penetrating energy, a view of the tumbling waters of the Atlantic was obtained and the Inquisitor could be seen to careen violently and plunge nose down toward the heaving surface. Swifter and swifter it fell, descending rapidly at an angle of about forty-five degrees. Then suddenly it was all over. The nose of the vessel entered the waves with a great cleaving effect, throwing a shimmering spray in every direction as the smooth hull buried its length from sight. The splash returned to the surface like that following a stone tossed into a puddle and the waters closed over the vanished air yacht.

Randall Haines laughed aloud. "Saves a lot of work for the Department," he said. "We should have been busy watching them for all of a year had this not happened. I must report it at once."

"Better wait a bit, sir," admonished Olsen. "The vessel will return to the surface unless the hull was battered in by the force of its dive."

THE searching ray of the detectoscope played over the surface of the ocean for more than a half hour in the vicinity of the accident. Olsen even tried the penetrating ray but it was of no avail since the variable refractive effect of the tumbling waves broke up the screen images completely. A further methodic search of the surface for several miles in all directions from the point where the Inquisitor had vanished produced no results.

Then Haines gave vent to a startled exclamation. "What's that, Olsen?" he asked in excitement, pointing to a small object that bobbed about on the surface of the dark waters.

The magnification was increased rapidly until the object became life-sized on the screen. It was a small wooden packing case, and in black letters on its cover was the name "Inquisitor." There was no further doubt of the loss of the vessel and its passengers.

Randall Haines could contain himself no longer and he hastened to the television radio in the adjoining room. After a moment of setting a number-combination on a series of dials on the instrument, the heavy features of Jerome Carter appeared in a brightly illuminated square on its face.

"Hello, Haines," greeted the unpleasant voice, "What's the news?"

"They've been sunk!" was the reply.

"Sunk?" asked Carter in startled voice, "What do you mean?"

"There was an explosion in the engine room of the Inquisitor and she went down out of control. She dove into the ocean as nicely as one of those performers at the Century this week, and never came up."

Carter's ruddy features purpled. He seemed about to burst. "By God, Haines!" he ejaculated. "If you did this I'll have you reduced to the gray."

"I didn't, Sir. I didn't!" palpitated the now frightened Haines, "Olsen and Anthony will bear me out. It was pure accident. Something we didn't count on. I'd think you would be pleased."

"Pleased? Pleased?" sputtered Carter, "why man, don't you realize this will set the gray multitude into seething uproar? Philip Barton is their idol, and we went the absolute limit in arranging for his exile. Even as it is, there has been difficulty in keeping them in hand. Now, nothing on earth can convince them that the accident was not of our contriving. The govern-

ment will be branded as Barton's murderer, and the workers may do almost anything in their excitement."

"Then the Newscasting Corporation must be kept ignorant of this development," said Haines with an inspiration.

"Yes, that might be successful," replied Carter, thoughtfully, "but it will be necessary to invent news of their movements for many months to keep the workers from suspecting."

* * * * *

BUT Randall Haines had reckoned without his subordinates, for, not having orders to the contrary, Olsen had already reported the eventful happening to the Newscasting Corporation, and while Haines still conversed with Jerome Carter, the news-speakers were spreading the information throughout the continent.

Through the lower levels of the great cities it spread like wildfire, and gray-clad workers paused in their tasks to send up prayers for the souls of Philip Barton and his wife and companions. Here and there they exchanged furtive glances and passed signs that boded ill for the plutocracy of the upper levels.

Within the hour there was rioting in New York and in several others of the large centers, but it was quickly subdued by violent action of the red guards. For the pitiable multitude in gray was without an organization, without a leader of sufficient ability to unite them in the emergency.

President Haven bore the brunt of recrimination heaped on the government by the workers and by certain of those of the purple, who were friends and admirers of Philip Barton. He was openly accused of the murder of his own daughter, and, when he attempted to address a crowd that had gathered in Capitol Square in Washington, he was hissed down. After this experience he retired to his own chambers under heavy guard. But in the innermost recesses of his thoughts he was glad. He did not believe that his daughter was lost, nor that her husband and his companions had been drowned in the cold waters of the Atlantic. He trusted Philip Barton, and to himself he repeated, over and over again, the assurance he had been given by the inventor, that a reported disaster would be a ruse and was not to be credited. But his position was extremely difficult and he called on Carter for assistance and advice. But that wily person had eliminated himself as completely as if he had vanished from the face of the earth. It was impossible to locate him by radio at any of his offices or at his living quarters. With trouble brewing, he had left the President to face it alone. The secret council of ten had likewise become non-existent as far as any possibility of locating them was concerned. But the Secret Service was loyal to its duties and President Haven felt certain of his safety from personal violence when he reached his own rooms, escorted and guarded by nine members of the Department.

UNKNOWN to the wearers of the purple, there were three gathering places of the gray. The largest, in New York City, was cleverly hidden in a disused warehouse space below one of the deepest sublevels. This space was of sufficient size to permit more than two thousand workers to listen to the exhortations of the few speakers, who had the temerity to address them from time to time. Another was located in Chicago, this one being fully as large as the first. A third, somewhat smaller, had been recently established in San Francisco. The three headquarters were interconnected by a secret television-radio public address system, and the growing organization activities, which had been interruptd by Barton's exile, could thus be carried on without knowledge of the red police or of the world at large.

Less than five hours after the reported loss of Philip Barton's vessel, these three halls were crowded to the utmost, and a red-faced individual addressed the three audiences from the platform of the meeting place in New York. He was Arnold Baxter, a close friend of Kirk Paulson, and he spoke vigorously and pointedly.

"Friends," he said, "we must not deceive ourselves in this matter of the exiling of Philip Barton. We must not place the blame upon the shoulders of his father-in-law, President Haven, though he signed the decree of banishment. It has become increasingly evident during recent years that there is a guiding hand, a dictator of the policies of our government. And that dictator is none other than Jerome Carter. We may rest assured that it was by his influence this dastardly action was taken. And to me, it is clearly evident that the persuasion of our President to sign the fatal paper was accomplished only by a clever presentment of the banishment decree, as something that could not possibly result in harm to his daughter or to her husband. But this vicious arch-enemy of ours, Carter, had planned cleverly that the voyage of the Inquisitor was to provide a simple and completely masked means of getting Barton out of the way forever. He has accomplished his purpose, to our everlasting loss and sorrow. Our dear friend now lies at the bottom of the Atlantic and his great work must be continued by another. Kirk Paulson is the only man in United North America who can measure up to the necessity. Is Kirk here?"

There was no response for a few minutes. Then a piping voice spoke up from the rear of the auditorium: "There was a group in Cooper Square at noon time. Kirk was among them. But they were dispersed by the red guards, and he has not been seen since. My sister was in the group and we have heard nothing from her either."

"Another example of this unbearable tyranny," shouted Arnold Baxter. "They have undoubtedly been incarcerated by the red police. But we must not delay for long. Philip Barton must be avenged and, oh friends, if you but realized it, our power is more than sufficient to accomplish the overthrow of the present régime and the establishment of a new order of things —government actually "of the people, by the people and for the people." Our number is legion and, but for the fact that we are unorganized, we could this minute take things in our own hands. True, we have been kept uneducated and undernourished. We have been divided and sequestered to prevent this very organizing. And why? Because we are feared by those of the purple. Full well do they appreciate the strength we could muster were we properly led and banded together. And that is the very reason for Jerome Carter's fear of Barton, who befriended us well, but a bit too openly.

"The republican form of government is sound in principle and I do not believe that any of us are in

favor of a substitute. But our actual government is no longer a republic. The control has gradually passed from the hands of the people, where it belongs by constitutional right, to the hands of a few men who have amassed huge fortunes by inheritance, supplemented by profiteering in the labor of our down-trodden millions. These have subsidized the politicians and have controlled the elections for decades. They have forced the passage of laws which benefit their own class and discriminate against ours. This class legislation has poisoned our entire social structure, until, during the past two generations, we have degenerated into the suffering, hopeless lot we now are.

"But an end must come to everything, and this last act of Carter's is the final blow that must precipitate action. Unfit as I am to plan and direct our activities, I must endeavor to get things started in the absence of Kirk Paulson. He is our logical leader, and is by far the most capable among us, now that Philip Barton is gone, but we must not delay. I have a plan for initial action that I had already discussed with Kirk and we must put it into effect at once. In fact, it is my belief we should take even more serious action than the mere organizing proposed."

Pandemonium reigned in the hall. Cheers rent the air and the listeners gave vent to their enthusiasm as they had not dared for many years.

"The plan! The plan!" demanded many voices when a semblance of order was restored.

* * * * *

WHILE Arnold Baxter was expounding the plan perfecting a powerful organization of the workers, Jerome Carter and his secret council of ten were gathered together in a chamber of the Administration Building in Washington. Ruthless determination was written on his hard features as he addressed the ten men who, with himself, controlled ninety-two per cent. of the wealth of United North America.

"Gentlemen," he said, "The gist of the matter is this: War has been declared by this action of ours in getting rid of Barton. Unwittingly we have rid ourselves of him too suddenly and effectively. The workers will rise against us—if we allow them to. Already there are rumblings from below in many of our cities. The unrest will spread rapidly—unless we prevent it. And we must prevent it. There is no time to be lost."

"True. But how are we to prevent it?" asked Emory Cass, President of the great Newscasting Corporation of North America.

"Rhusenic angina," whispered Carter hoarsely.

The council was struck speechless by the words and by the implication of Carter's voice and sinister smile. For the dread and almost certainly fatal heart affection caused by the absorption into the system of rhusene, an extremely powerful explosive, had been one of the most terrible causes of mortality during the latter days of the great war.

"We couldn't," gasped Emory Cass.

"We must," replied Carter firmly. He turned to another member of the council, Alexander DeWolf, President of the United North American Water Supply Syndicate. "And it's up to you, Alec," he stated.

DeWolfe paled and he stammered an objection. "But—but—Carter—that's murder," he said.

"It's self-defense," replied Carter, "Are we to sit idly by and permit the rabble to repeat the horrors of communistic Asia? Are we to be murdered in our beds by a horde of uncouth, maddened brutes? No, my dear Alec, it's murder prevention and I think you will not object to my plan."

"What is the plan?" asked DeWolf submissively.

"It's more than a plan," said Carter, "It's an order. In twelve of the largest cities one hundred thousand workers will be infected with rhusene to-morrow morning when they swallow their first drink of water. You will see to it that, in each of the first twelve cities of the land, sufficient quantities of the compound is introduced into reservoirs feeding the proper number of sections of the lower levels to account for that number."

"One hundred thousand in each of twelve cities?" breathed DeWolf. "Why, that is one million two hundred thousand people."

"Precisely," agreed Carter. "And that may prove to be an ample number. If not, we'll take further action. The meeting is dismissed."

The members of the secret council filed from the room in silence and without looking at one another.

In the President's Home

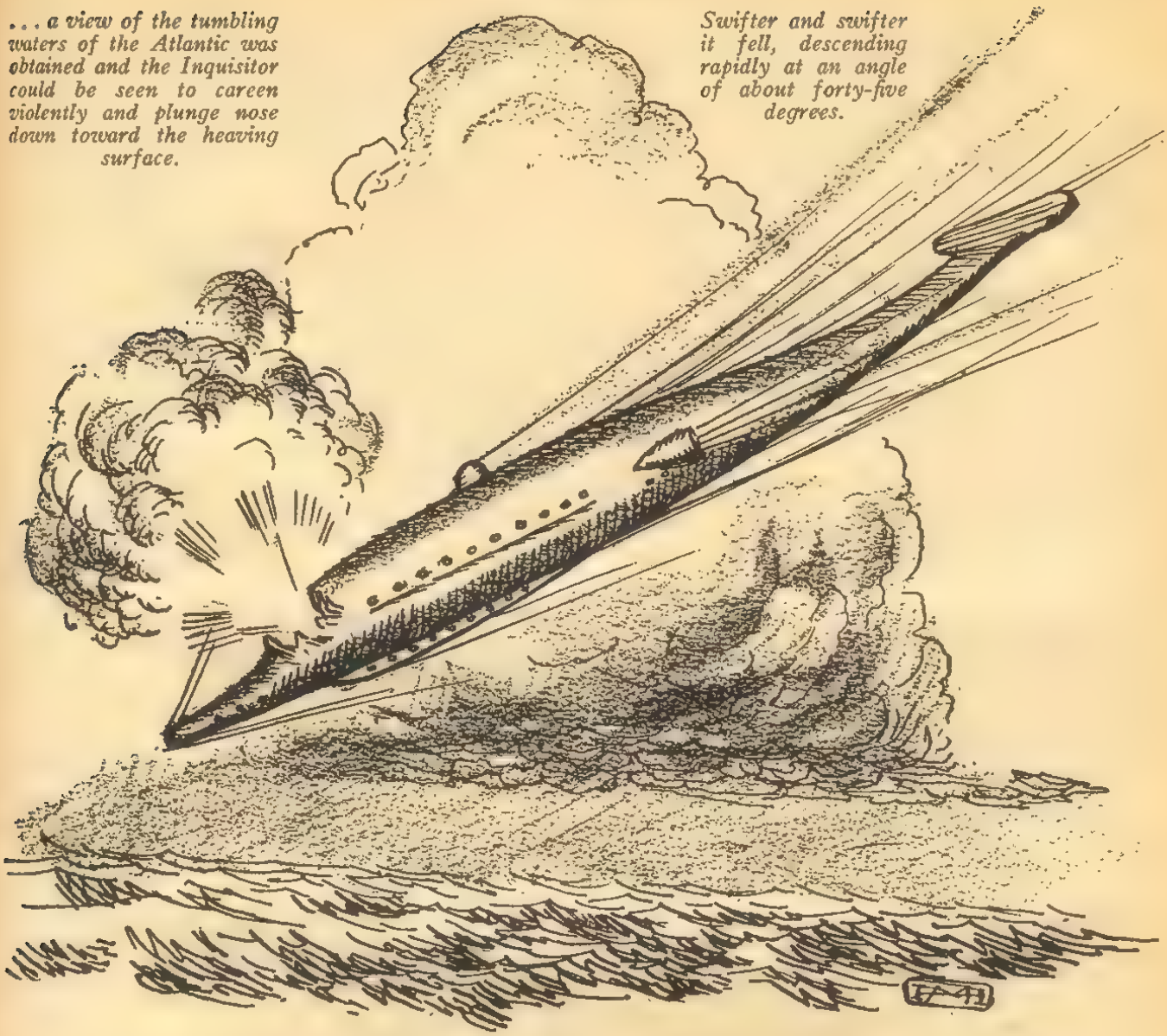
WHEN the Inquisitor struck the heaving waters of the ocean it was with considerably more force than Philip intended. The occupants of the navigating cabin were severely shaken up and bruised, Philip himself receiving a blow on the forehead from sudden contact with the instrument board, which blow nearly rendered him unconscious. So dazed was he by the impact that it was several minutes before he recovered sufficiently to remember the necessary changes in the adjustments of the controls to adapt the vessel to movement in the denser medium they had entered. Full gravity had been restored just before the dive and he had pulled the lever which opened the sea-cocks and admitted water to the ballast compartments. It was thus that he came to the realization that they were diving rapidly toward the bottom of the ocean and the depth indicator registered over one thousand feet when he came fully to his senses. The ballast tanks were filling rapidly and his first action was to close the sea-cocks, first in the bow and then in the stern compartments to restore the vessel to an even keel.

He then glanced at Mona and his male companions and saw that, though considerably upset by the experience, they were alive and not much injured. He smiled encouragingly at Mona's questioning glance and then turned full energy into the stern reaction motors. The pumps were at work emptying much of the water they had taken aboard and it was not long before they had risen to a depth of about a hundred feet below the surface and were headed southward at full speed. In the denser medium the Inquisitor's speed was greatly reduced and it required full energy from the emergency power plant to drive them at two miles a minute.

The great searchlights were turned on and these illuminated the water for nearly a quarter of a mile ahead. Philip gazed anxiously into the green opalescence, for he had not previously driven the vessel at so considerable a speed through the comparatively unknown element. His charts showed depths of two thousand feet and more, throughout the course he was following, but he was nervously apprehensive of un-

. . . a view of the tumbling waters of the Atlantic was obtained and the Inquisitor could be seen to careen violently and plunge nose down toward the heaving surface.

Swifter and swifter it fell, descending rapidly at an angle of about forty-five degrees.



known shoals, for the soundings had been made more than a century previously, before ocean travel with floating or sub-surface vessels had been abandoned for the simpler and cheaper air travel.

He instructed Jack and Tom in the matter of sending an empty packing case through the air lock to deceive the watchers in Washington. He also requested them to release Kirk Paulson and his companions from their hiding place and these soon crowded into the navigating cabin exhibiting many bruises and considerable concern over the cause of the shock, which had thrown them into scrambling heaps in the chamber they had occupied. Their surprise and relief on learning the true state of affairs was electric and the atmosphere of the cabin soon became one of rejoicing and exultation.

For two hours the Inquisitor held her speed and course, and then, with a sigh of relief, Philip turned her nose upward and prepared to take the ship once more into the element for which she was primarily designed. The vessel was soon bobbing about on the surface, and Philip scanned the heavens carefully for signs of any transatlantic vessel, which might discover and report them. But the skies were clear and he started the gravitonic field generators at once. The dripping hull of the ship rose eagerly to the controls and they soon resumed the normal air-cruising level of twenty thousand feet.

"Now, Jack," he said, when the course had been changed to the southeast and the speed increased to five hundred miles an hour, "I wish you would take the controls for a time. I want to get some of my instruments working and see what is happening back home."

This arrangement being made, he greeted Kirk's followers and mutual introductions followed, after which Mona took the women in charge, and Tom the men, all being assigned to staterooms in the vessel which was to be their home for some time to come.

He retired to one of the secret chambers with Kirk Paulson, and the two men were soon busily engaged with a detectoscope, which was one of the portions of the equipment of the hidden compartment. A series of sliding panels in the neutroloy wall was opened to permit the directing of the rays of the instrument in a northwesterly direction without interference. The city of Washington was soon brought into view on the rectangular screen and Philip immediately found the Administration Building with the searching ray. With

the penetrating ray in service he quickly obtained access to the President's private office, where he found two secretaries at work. But President Haven was not there. He observed that the secretaries were conversing occasionally in jerky, half-frightened monosyllables and he hastened to bring into service one of his most recent inventions, the detectophone. His model was the only instrument of its kind in existence and was capable of picking up the speech of those faraway assistants in the Administration Building and bringing their words to the Inquisitor over the rays projected from the standard detectoscope.

"Haven didn't take it as seriously as I expected," spoke one of the men visible on the screen.

"No," replied the other, "That occurred to me also."

"But Carter's scared."

"Yes."

"They say he can't be located."

"So I heard."

"Where's Haven?"

"Home, I guess."

PHILIP had heard all he wished and he soon adjusted the searching ray to reach for the location of the President's living quarters. These were quickly penetrated and he found Ross Haven in his own spacious drawing room with Mrs. Haven and Frances, the youngest daughter. The detectophone was still in operation, and the voices of the three came clearly to Philip and Kirk.

"But, Daddy, are you sure?" asked Frances, wiping her eyes with a corner of her handkerchief.

"I trust Philip," was the reply. "He told me definitely that he planned to make it appear that they were lost and assured me that any news to that effect would be untrue."

"Oh, I do hope you are right," spoke Mrs. Haven in a tone of extreme anxiety. "If anything has really happened to Mona it will be the death of me."

"Don't worry now, mother," spoke the President, patting her shoulder comfortingly. "Philip would not have made the statements he did unless they were true."

Kirk looked at his superior. "Hadn't we better set their minds at rest?" he asked.

"Yes, I think we had," replied Philip, "but, with the ship in motion we can project only our voices. That should be enough though. Get Mona here."

"Sure," agreed Kirk, starting at once to locate her.

Philip busied himself with another contrivance that occupied a space on the long bench adjoining the detectoscope and the detectophone. This invention had also not been disclosed to the world, though Philip had perfected it more than a year previously. It was the projectophone, which, by a simple connection to the detectophone and utilizing the searching and penetrating rays of the standard detectoscope, enabled one to carry on a two-way conversation with persons pictured on the screen.

Mona returned with Kirk just as he had completed the necessary connections, and, when she saw her parents and sister pictured before her eyes, and heard their familiar voices in worried conversation, she uttered an exclamation of surprise and joy.

"What was that?" asked her mother in a startled voice, "I thought I heard Mona speak."

"You did, mother, you did," Mona exclaimed. "I am safe on the Inquisitor and can see you and hear you, thanks to one of Philip's secret inventions."

"But—but," stammered her mother, looking about in a confused manner, "I hear you perfectly. But I can not see you, and your voice seems to come from nowhere. It is everywhere in the room."

Philip laughed aloud. "It must seem mysterious at that, Mrs. Haven," he said. "But it is an accomplished fact nevertheless. And we are all safe, just as Mona says."

The President spoke. "What actually happened?" he asked.

"I drove the Inquisitor under water," replied Philip, "after making it appear that an engine room explosion had damaged the vessel beyond repair. We traveled below the surface for two hours, but are now in the air and headed toward an almost unknown island under our own emergency power."

Mrs. Haven cried her relief on her husband's shoulder as she heard the distant voice, and Frances was so excited, that she could not wait to talk with her beloved sister. The two-way conversation was carried on for some time, and Philip betrayed great concern, when he learned of the effect the report of his death had produced among the masses in the lower levels of the cities.

"They must not start trouble now," he said, "or they will upset all my plans. I must increase speed and get to our destination at once so our further work can be started. So, farewell for a time, folks. We'll get in touch with you often."

IT was thus a happy-faced group that faded from the screen, when Barton changed the adjustments to search for Jerome Carter. He was unable to locate the dictator either in his New York or Washington office, or in his home, so he returned to the navigating cabin and took over the controls from Jack Sterns.

"We must rush to our destination," he announced. "Trouble is brewing fast at home and there are certain things I can do only from a headquarters on solid ground."

"How much further is it?" asked Kirk.

"About four thousand miles air line. Our island is not far from St. Helena, where the emperor Napoleon spent six years in exile more than four centuries ago."

"Then we're bound for a stylish neighborhood for exiles," laughed Tom Easton.

"Yes," said Philip, "and I want to get there in two hours."

"Can you do it?" asked Jack, in surprise.

"I think so. We're going up about twenty miles further where there is practically no air resistance. Of course the rotation of the earth is against us, if our height makes us independent of it, since it travels from west to east at the surface speed of nearly a thousand miles an hour. But we are cutting across the plane of the equator at an angle of about forty-five degrees, so the adverse effect can be only half of that speed. And I think the Inquisitor can do 2500 miles an hour at the higher altitude."

The altimeter already showed eighty thousand feet and was still mounting. The speed indicator soon showed nearly fifty miles a minute, so there was little doubt of accomplishing Philip's desire.

DARKNESS had long since been overtaken when Philip slowed down the vessel and maneuvered to a lower altitude. By his dead reckoning they had about reached their goal, and he sent Jack to the platform on the upper surface of the ship to take observations. While Jack was aloft Philip bent over his chart and pointed out the position of the island; longitude twelve degrees and twenty minutes west, latitude twenty-one degrees and two minutes south. In a few minutes Jack returned with the sextant and his observation checked the dead reckoning almost exactly. They had reached the island.

All was in darkness beneath save for the light of the moon as it shimmered on the tumbling waters. Slowly the Inquisitor was dropped to two thousand feet altitude and the searchlights were directed downwards. The searching pencils of white radiance soon located a rugged coast line, where foaming white breakers dashed rhythmically against rocky cliffs, that reared their tops safely out of reach. It was less than two miles ahead, and in a very few minutes the Inquisitor had been maneuvered to a landing in a clear space well back from the rocky shore.

Philip mustered all hands, hitherto hidden in one of the secret compartments, as soon as the landing was made, and they set to work with a will as he directed them to convey to the outside the sections of a knocked-down structural tower and several cases of apparatus and parts which were required in the experiments to follow. The light metal sections were rapidly assembled in the flat open space alongside the vessel, great flood-lights being brought into play to light the scene as brightly as day. Within the hour a cage-like structure reared itself skyward to a height of more than seventy feet, and Philip and Kirk erected a pivoted horizontal member at the top, which was assembled from short joints of shining metallic tubing to form a cannon-like tube of some twenty feet in length. A small electric motor was attached to gearing that swung this member about its vertical axis and a similar motor applied to the horizontal axis, so that the tube could be swung to any point of the compass by remote control or to any angle with relation to the horizontal. Insulated cables were brought down the lattice-work of the tower and carried into the Inquisitor where they were attached to a mechanism in the laboratory compartment.

"Now," said Philip, when the work was completed to his satisfaction, "we are ready for some serious work, and I do not believe we are much too soon."

He first brought the detectoscope and its allied instruments into action. The first search carried the observers to the extreme lower levels of New York City where it foscused on the meeting being addressed by Arnold Baxter. Kirk Paulson expressed his glee at the size of the gathering, but his face took on a serious expression when the first words of the speaker were made audible by the detectophone:

"And friends," intoned the voice of Arnold Baxter, "we must strike our first blow to-morrow morning. And it shall be a decisive blow that will show our power in no uncertain manner. Paulson is not here—Philip Barton lies in a watery grave—but we must act. Jerome Carter and the council of ten must go. Much as we all hate the thought of bloodshed, there is no other way. I have the living addresses of all eleven, and these must be visited before dawn and each must pay the penalty with his life. We have weapons and we have brave souls to use them. Philip Barton must be avenged and our once glorious country must be restored to its birthright of freedom and happiness. Who will volunteer?"

There was a storm of cheers from the crowd in the auditorium, and from the loud speakers connected with the Chicago and San Francisco meetings came clearly the clamorous approval of the gatherings assembled at those points.

Kirk's face paled. "Great Scott, Philip," he exclaimed, "they are mad. It means a bloody civil war if they are not stopped."

"Just what I feared," agreed Philip. "And we must stop them."

He energized the projectophone mechanism and brought the image of Arnold Baxter very close in the screen. All members of the party on board the vessel were assembled in the laboratory, and they watched and listened to the proceedings in breathless silence.

"Speak quietly to Baxter now, Kirk," directed Philip.

Kirk placed his lips to the microphone and whispered, "Baxter."

The leader of the gray assemblage was panting from the excitement and exertion of his speech, but he turned his head sharply at sound of the voice that whispered in his ear from nowhere.

"Baxter," repeated Kirk, "it is I, Kirk Paulson."

In great surprise Arnold Baxter swung about in all directions, as if expecting his friend to materialize from the surrounding air.

"In heaven's name man, where are you?" he asked.

"Oh, about five thousand miles away," said Kirk, "with Philip Barton, who does not, as is supposed, lie in a watery grave. You must stop this terrible thing you have started."

"But how—how—" sputtered Baxter.

"Never mind how I am communicating with you. It takes too long to explain, but it is by means of an invention of Barton's. I see you and the assembly through an ordinary detectoscope, and I also see that you have no less than fifty volunteers for the bloody work you have proposed. Tell them we are safe—tell the entire audience, and then let me speak to them."

BAXTER pounded for order, and in a few well-chosen words, told them the news. Expressions of disbelief surged through the crowd, and it was some little time before the clamor was silenced. Then the well-known voice of Kirk Paulson swept through the hall and the astounded listeners were compelled to believe.

"Friends," said Kirk, "this mad plan must be abandoned. Philip Barton is alive and he plans a scientific method of controlling the situation in United North America. The fact that he was not killed in the reported accident to the Inquisitor must be kept in absolute secrecy for a time, and I charge you all not to betray the trust. To prove the truth of my statements, Philip Barton will now speak to you and, through the medium of one of his most remarkable recent inventions, an image of him and of myself will be projected upon this platform. We are not ghosts and the images will be merely light images, having three normal dimensions even after their projection through intervening space."

The far-away audience watched the platform, and listened in strained silence, while Philip worked rapidly to get the apparatus of his projectoscope in operation. In the laboratory of the Inquisitor, the witnesses watched as closely as did their friends in distant New York. Philip and Kirk mounted a small insulated platform, over which was suspended a huge helix of glittering copper ribbon that glowed with a mysterious purple light when a generator started purring in a corner of the laboratory, and numerous vacuum tubes in a wall cabinet lighted up at the touch of Philip's finger to a switch. Two small levers, operating on semi-cirular plates graduated in degrees were manipulated to control the direction of the tube at the top of the tower that had been erected outside the vessel. Philip moved these levers carefully until a circular spot of reddish light appeared on the platform of the distant auditorium. Then he spoke:

"Friends," came his kindly voice, "if you will keep your eyes on the spot of light which has appeared before Arnold Baxter you will observe the gradual materialization of my image and that of Kirk Paulson. Now!"

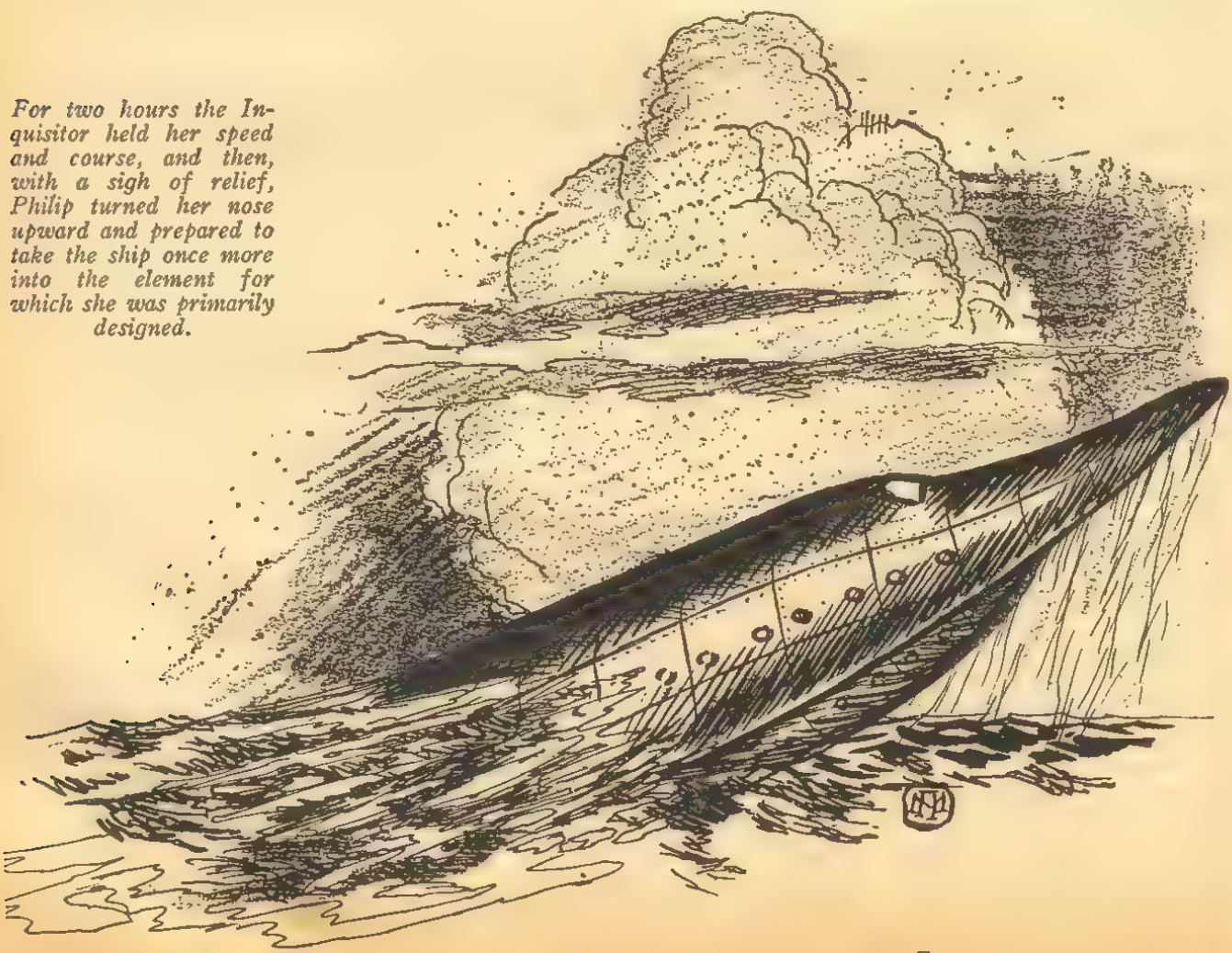
He pressed a button at the side of one of the levers and the hum of the generator lowered in pitch as it took the increased load. The watchers at both ends of the circuit gasped as the living images appeared on that platform—hazy at first and weaving about from static interference, they soon developed into clear-cut, substantial reproductions of the two men on the little transmitting table in the Inquisitor's laboratory.

The crowd in the distant meeting hall broke loose, and nothing could restrain their demonstrations for nearly ten minutes. Finally, becoming impatient at the delay, Philip silenced them with a thundering voice, and told them of the importance of their deserting the plan proposed by Baxter, and of their remaining inactive to permit him to carry out his own plans in their behalf. He spoke to them for about fifteen minutes and made arrangements to speak at the same point each evening thereafter, until his activities had brought results. When the projectoscope was switched off and the images of the two men vanished, the din in the hall was terrific and Kirk Paulson gloated over the success of the experiment while Philip changed the adjustments and started a search for Jerome Carter.

"We may rest assured that he is up to some deviltry by this time," he said grimly, as he searched first the offices and then the living quarters of the great man.

It finally occurred to him to search the Administration Building and there, after several ineffectual attempts, he eventually located the secret meeting room, where Carter was in session with his ten lieutenants. The first words heard from that point were the instructions to Alexander DeWolf regarding the pollution of the water supply, and the witnesses on board the Inquisitor paled and gasped their horror at the fiendishness of the plot.

"Great Scott!" exclaimed Barton, when Carter's



For two hours the Inquisitor held her speed and course, and then, with a sigh of relief, Philip turned her nose upward and prepared to take the ship once more into the element for which she was primarily designed.

meeting was dismissed, "the man is a far worse rascal than I suspected. We are none too soon."

HE directed Kirk to follow the movements of DeWolf with the detectoscope and set about bringing to the projectoscope platform a crystal sphere of about eighteen inches diameter. This he placed in a cup-shaped receptacle, which he set in the center of the platform. Then he returned to the adjusting mechanism of the searching ray.

On the screen they followed DeWolf to the fast air liner, that carried him from Washington to New York in less than fifty minutes. They followed him to his very rooms, where he was seen to sit before his desk and start writing orders to twelve trusted subordinates in the twelve great cities named by Carter. These were written on radiogram blanks and were intended to be delivered in the morning.

"Time to take serious action," said Philip.

He started the projectoscope generator and the crystal sphere glowed with an unholy wavering radiance, that shifted color so rapidly as to set the eyes pulsating with immediate nervous reactions.

"Keep your eyes off that sphere, folks," he ordered.

The controls of of the projectoscope were adjusted until a red circle of light appeared on Alexander DeWolf's desk. Then an image of the shimmering sphere itself materialized in that spot and DeWolf sprang back in alarm. But his eyes could not leave that awe-inspiring phenomenon. He seemed drawn to it by some irresistible force, and the watchers saw his eyes dilate in fear as the pupils jerked spasmodically in rhythm with the flickering colors. In less than two minutes he stiffened in his chair to the rigidity of a stone image, eyes wide open and staring.

"Those messages will not go out to-night," laughed Philip. "That was a successful demonstration of long-distance hypnotism. Mr. DeWolf will not awaken until we use our projectoscope on him again—when advisable. Now, let's all get some sleep."

It was an astonished and awed group that broke up a few minutes later and retired to the staterooms of the Inquisitor.

Exploring the Island

NEXT morning Philip awakened with the dawn, and he prepared to sally forth at once to look over their surroundings in daylight, being careful not to awaken Mona as he bathed and dressed.

He found that Kirk had preceded him and was examining the results of their previous night's work on the projectoscope tower. It evidently pleased him in spite of the haste with which it had been accomplished, for he greeted Philip with a broad smile.

"Good morning, Philip," said Kirk. "Are you ready for a check on our friends back home to see what they may be up to in the early morning hours?"

"Not for some time yet, Kirk," was the reply. "You forget that the sun rises here about four and a half hours earlier than in Washington. Our friends of the purple are not accustomed to rising before dawn."

"That's right," admitted Kirk. "And I imagine some of our companions here will not be up and about for an hour or more, either."

"Quite likely," laughed Philip. "At least I'm sure that Mona will not. She was exhausted when we retired last night. In the meantime suppose you and I look over the island a bit. It is three years since I last visited it, and I should like to see what changes, if any, have taken place in that time."

They made their way over the smooth, moss-covered rocks of the extensive plateau on which the Inquisitor rested and soon neared the edge of the cliff which separated them from the remainder of the island. There a wonderful sight met their view, for before them spread a huge depression, all that remained of the crater of the extinct volcano whose dying activity had thrust the island above the surface of the waves. The sloping walls of the crater were covered with strange vegetation, tropical in character yet lacking in the hugeness and denseness of the jungles of Africa on account of the comparative youth of the undeveloped island. Birds of brilliant hue flitted among the trees and the air was redolent of the odors of virgin forest. From the opposite side of the crater, fully two miles across, there cascaded a waterfall that spilled its sparkling waters down the sloping wall of rock and formed a stream that wound its way through the verdant valley and disappeared among the trees in the lowermost portion of the depression. The skies were cloudless, and the early morning sun already gave promise of a much warmer day than the one they were accustomed to in the uniformly cooled and heated cities of their own country.

"This is back to nature with a vengeance," laughed Kirk. "I have not visited the country in more than ten years, and have seen no growing things since, excepting potted plants and flowers. Let's go down into the valley. I see a natural pathway down the rocks that should not be difficult to follow."

"Better not," said Philip. "We have many things to accomplish to-day, and we might spend several hours down there if we ventured into the valley. I lost myself in that undergrowth three years ago and spent nearly a full day finding my way out."

AS they became absorbed in their contemplation of the beauties of nature there was another of the Inquisitor's passengers who had been awakened by the early morning sun and who was busily preparing to leave the vessel on a mission of curiosity. This was one of Kirk's friends, Aline Sarov, an attractive, Titian-haired miss of twenty, who had spent the past eight years of her life in the confining work of the Synthetic Food Products Corporation. Never in her short and uneventful experience had she been awakened by the cheerful inpouring of the sun's rays through a bedside window. Her every awakening, as far back as memory carried her, had been to the automatic flooding of her small, eight-level room with artificial sunlight supplied over the cables of the Manhattan Power Division at precisely six o'clock. And the real sun, which she had seen but four times in her lifetime, was so much more comforting and pleasant. She reveled in the warmth of the beam that slanted across her room, then, with a sudden accession of exuberant vigor, rushed through the corridors of the Inquisitor and out into the open air.

When she reached the outside she breathed deep of the ocean breeze and could scarce refrain from shouting her happiness aloud. With quick, light steps she made her way across the rocks and soon reached the crater's rim, where the unexpected sight of its sud-

denly revealed beauties struck her with such force that she stood rooted to the spot for many silent minutes. So absorbed was she in the strangely marvelous view that she did not see the two men, who stood not a hundred feet away, watching her with pleased and kindly understanding.

Finally Kirk called out, "Aline!"

With a startled glance in their direction, the girl flushed and seemed about to return in haste to the Inquisitor.

"Come," called Kirk again. "Come and join us."

"All right," she replied, her momentary embarrassment forgotten. "I thought I was the only early riser on the yacht, so I was a bit surprised by your greeting."

She approached the two men somewhat timidly.

"Good morning," she greeted them, when she reached the spot where they awaited her coming.

"Good morning," returned the two men.

And Philip's keen gray eyes noted the softness of the words as spoken by Kirk and the mounting color of the girl as she took the hand of the handsome young man in gray. Sensing the situation at once, he soon made an excuse and returned to the Inquisitor, leaving the two younger people together.

"You look wonderful this morning, Aline," was Kirk's first remark after Philip was out of sight.

"Do I?" she replied innocently. "It must be the invigorating sea air that brings the color to my cheeks."

"No, it is more than that, Aline. You look happy and carefree. It is the freedom from the dull monotony of the daily grind."

"Perhaps you are right, Kirk," she agreed solemnly. "I do feel different. I feel as though I were an individual rather than a mere cog in a great machine—a great, purposeless machine. And what is it all about, Kirk? You have promised to explain it all to me, and I am so ignorant and so anxious to learn. Why are our lives as they are?"

Kirk looked tenderly at the sweet face which had once more taken on its customary wistful expression. "It is a long story," he said.

"But we have plenty of time," she said. "Please tell me—Kirk."

"Very well," he agreed. "I'll do my best."

Side by side they sat at the rim of the crater and Kirk unfolded to her eager ears the story of the development of conditions as they had come to exist in United North America.

"The trouble has not become acute until recent years," he began. "In fact, it did not begin to assume serious proportions until after the great war. But it actually began in the dim past—about three centuries ago. At that time the United States of America was the richest nation in the world, even as United North America is at the present time. The world was then recovering from a rather widespread conflict, in which most of the nations had become involved, but of course the effects were as nothing when compared with those of the great war of 2179 to 2191. The foreign nations recovered with comparative rapidity and, in less than twenty years, the war that had then been considered so dreadful became little more than a memory.

"MEANWHILE the wealth of our country continued, and the prosperity of the lower and middle class grew apace. In those days there were three classes, the middle one of which has since disappeared. This was in the early days of industrial development, and what were known as public utilities enjoyed an unprecedented growth. The use of electricity was in its infancy, but growing rapidly, and it was not long before the public utilities became the strongest single factor in the old United States. Serving the public in the matter of light, heat, power and transportation, they were given monopolistic rights by the people, it being a foregone conclusion that the people would be served. There lay the great danger, the danger of the essentials of life falling into the hands of a unified interest. And the public utilities saw to it that unification was accomplished. The monopoly created by the public eventually came to prey on the public which created it.

"The utilities formed huge combinations, aided and abetted by the gullible public, and these undertook to control the politics of the people who created them and to dictate the policies of the government. The prosperity of the middle class contributed surely and inevitably to the accomplishment of the result, for they soon became of sufficient affluence to dabble in what was known as the stock market. In New York and in other large cities there were trading places where securities and papers representing actual shares in various business enterprises were dealt in. But these trading centers were actually controlled by the moneyed interests, though for a time they allowed the middle and lower classes to profit and to approach, though scarcely ever reach, the independence of wealth.

"It was all a clever scheme in the minds of a few great financial wizards, you see. The period of intense public interest in speculation continued for many years, and the combinations and mergers of great industrial and public utility interests increased by leaps and bounds. Executives and officials of the great corporations formed "investment trusts," wherein they pooled their vast holdings of the stocks of varied corporations, with the intention of preventing the collapse of prices and still enabling the individuals to "cash in" on their paper profits. The public continued to buy and buy, and, in order to gratify their anxiety to amass riches for themselves, their savings were withdrawn from the banks in ever-increasing amounts and eventually found their way into the coffers of the unified industries and utilities. The collapse of the banking system followed.

"Then came the collapse of the stock market and the poor, misguided public saw their paper profits dwindle and disappear under the onslaughts of the professional manipulators of the market. After their supposed profits had gone, their actual savings followed, and, within a very short time, the middle and lower classes were without funds, and the upper class was in possession of almost all of the tangible wealth of the nation. The crushing of the National Banks and the Federal Reserve was not so easy, as this could not be accomplished without legislation. But this proved to be no great stumbling block to the great financial minds, for they had by this time become so very powerful and influential that they were enabled to force through Congress almost any legislation they desired.

"Gold had been used for many years as a basis for the monetary system. This also was done away with when the banking system was disrupted. Further legislation was enacted and the government mints were

closed down, the coining of gold, silver, nickel and copper being discontinued. The paper money of the government, which had previously been issued against reserves of gold and silver, went the way of the bank notes, which had lost their value with the collapse of the banking system, and the country came into the complete control of the industries and utilities. Their paper became the medium of exchange, and the security for this paper was the actual plants and properties of the corporations."

"BUT," objected Aline, "the President and the members of Congress are elected by the people. If the public saw all of this coming, why did they not prevent it by electing government officials who could not be influenced nor subsidized by the corporations?"

"Because," explained Kirk, "they pulled the wool over the eyes of the people in those days even as they have done in our own time. But they were devilishly clever, and in their justice be it said that for more than two centuries conditions under their rule were far better than they had been previously. For a time, of course, there was chaos, and from it emerged a new order of things. Those of the middle class who had lost their all dropped in status to a class in some cases lower than the low. Those few who had managed to retain some of their profits were elevated to the fringe of the upper class. The middle class as such was gone. And, with the re-stabilizing of exchange by the new system of the industries and utilities, the first step of the great leaders was to alleviate conditions in the lower classes and to thereby obtain their everlasting gratitude. In the furtherance of their own designs, it was necessary to use the working class, and the working class was made to benefit in direct ratio to its willingness and ability. Those of education and ability were quickly elevated to higher stations in life and the entire level was raised. There was less work than ever for everyone and the standard of living improved until all were enjoying more of the luxuries and comforts of life than they had ever known before. The advance of science contributed greatly to this, and the invention of new labor-saving devices and the ultimate complete electrification of the entire nation lightened the labors of all. Of course the few great men at the heads of the vast corporations were in possession of practically all of the actual wealth, but who cared? The actual machinery of the government was running more smoothly than ever before. Each worker found that his own comforts and rewards could be increased by increased effort and more especially by improvement of his or her own education. There being little need for heavy manual labor, a premium was placed upon the possession of knowledge and education, and the entire populace benefitted greatly.

"The increase of scientific knowledge led to an age of invention, and this conspired to bring about the concentration of population in the great cities and the abandonment of the farms and smaller communities. Necessity called for the provision of synthetic substitutes for farm products, and these were forthcoming. The breeding and raising of livestock became almost impossible on account of the turning of the youth of the country to the cities. Synthetic substitutes for meat were forthcoming. With the increase in knowledge of the requirements of the human body and the knowledge of the important part played by the various vitamins, this was a simple matter, for vitamins can be produced synthetically as you know from your own work. Proper combinations of the required vitamins produced in palatable form have been our daily sustenance for two centuries now, and statistics show that our race was, until after the great war, stronger and healthier than ever before in its history.

Aline corrugated her brow in growing perplexity. "If conditions were so ideal for generations and generations under the new order of things, why have they changed so radically since the great war?" she asked.

"That is another matter," he replied. "As long as the men at the head of the eleven essential corporations were good men and had as their first concern the good of mankind in general and of their countrymen in particular, all was well. But the soft living of those of the purple gradually altered their viewpoints. They slowly degenerated, both mentally and morally. Brains were easy to purchase, too easy in fact. Trusted lieutenants took over the more arduous duties and left their masters to lives of ease and indulgence. And these lieutenants were placed in positions of power and authority, though their every vital policy was dictated by the master mind. And, with the degeneration of the master minds, the policies became less and less favorable to the wearers of the gray.

"Then came the great war. The nations of Europe became embroiled in a conflict the like of which had never been conceived in the minds of the most pessimistic of the calamity howlers. Their orders for munitions, chemicals, supplies, poured into our country and their riches followed in payment. The master minds recovered from their lethargy. Vast profits were to be made from the misfortunes which had come to Europe. The labors of the workers in gray increased apace. China and Japan became involved. The colonies of Great Britain were depopulated to feed the maw of the monster—super-scientific war—as were the colonies of the other great powers. The wealth of the United States doubled, trebled. Three billions of our fellow men had perished and still our people did not interfere. Having become a self-contained nation and entirely independent of imports of commodities, it was not necessary to protect ourselves in foreign countries. The entire world was at war—nations were brutally exterminating each other by scientific means—whole armies were wiped out at a single blast of electronic energy. Finally, when the combatants were exhausted and almost defenseless, we stepped in with an army of twenty million. It was difficult to determine just which side we were on, but we put an end to the great war—to the rest of the world, almost. A second army of twenty million followed and the job was completed. Our loss in man power totaled fifteen millions. Our loss in riches was enormous—on paper. But we held paper from the rest of the civilized world that mortgaged its future to us for a century or more.

"Then there returned twenty-five millions of young men and women to our shores. They had spent from one to four years in war-torn Europe and Asia. Their outlook on life was changed. They were not content to return to the gray, and it behooved those of the purple to take action. Canada had been turned over to us in part payment of Great Britain's war debts, and the returned warriors were sent to its great depopulated

cities to start the work of rehabilitation that has been so successfully carried out.

"BUT things changed rapidly now. Jerome Carter was a young man, but he had inherited from his father and uncles the control of the corporate wealth of three families, and this total represented more than two-thirds the wealth of the nation. This man, Jerome Carter, hated the gray multitude. He possessed great force of will, and soon obtained complete mastery over the other ten greatest magnates of the newly formed United North America. Within ten years he was virtual dictator of the new Republic, and he had taken the last vestige of independence from the wearers of the gray. By his control of the President and of Congress, he caused the enactment of legislation which took education entirely from the lower levels of our cities. That is why you have been kept in ignorance of science, history and all knowledge, excepting that necessary to suit you for an individual task that was assigned to you by the Government before you were born. That is why we traffic surreptitiously in books in our lower levels, and that is why the red police have been built up into a great organization fostered by the minions of Jerome Carter.

"As a parallel to the complete subsidy of the government and the degradation of the multitude in gray, Jerome Carter has kept Europe and Asia and the colonies of the former great powers of those continents from recovering from the effects of the great war. With their future mortgaged to his puppets, they will never reach economic independence, since their labor is all expended in wresting from the battle-scarred ground the minerals and chemicals which constitute almost their sole source of wealth and which is the sole medium they have in which to pay their debts."

"Terrible, terrible," exclaimed Aline, whose eyes had remained wonder-wide during the long recital. "And the change is to be accomplished by you and Mr. Barton?"

"Mostly by Philip," he replied, "and, I imagine, mostly from this island."

A cheerful hail from the direction of the Inquisitor reached their ears.

"Breakfast, folks!" came the cheery voice of Mona Barton.

"I'm hungry," smiled Aline.

"Me too," said Philip, lifting her gaily to her feet.

The ensuing foot-race brought them up, flushed and panting, at the entrance to the vessel. The final spurt to the breakfast table was made in record time.

Some Fiendish Action Curbed

IMMEDIATELY following the morning meal, Philip and Kirk repaired to the laboratory, where they busied themselves with certain experiments which had been interrupted by the carrying out of the banishment decree. It was in the results of these experiments that Philip hoped for the perfection of means whereby the complete domination of the situation in United North America could be effected. The remainder of the party set forth from the Inquisitor to explore the island which had given them temporary refuge from the intolerable conditions to which they were accustomed.

Mona Barton and Aline Sarov grew to be fast friends in a very short time, and the morning was not yet half gone when the little girl in gray confided to her new-found friend of the purple her hopes of future happiness with the masterful Kirk Paulson at her side.

Jack Sterns, with the true adventurous spirit of the experienced air pilot, set forth with Tom Easton and a number of Kirk's followers to descend into the crater and examine at close hand the wonders of nature that presented so inviting an appearance when viewed from above.

Philip and Kirk labored incessantly with the mechanism of the strange instruments they were assembling. It was well after midday before they found opportunity to rest, and it had been necessary to place the refrigerating apparatus of the Inquisitor in service on account of the great heating effect of the blazing tropical sun which shone with all its fury on the metal hull of the vessel.

It was with a tired sigh that Philip looked up from his work and observed the lateness of the hour.

"Kirk," he said, "it is about time we cast an eye about in New York and Washington. Carter's gang must be watched closely."

"No question of that, Philip," agreed Kirk. "And it is after eight o'clock by Eastern Standard Time."

The detectoscope was placed in operation and, since its adjustments had not been changed since the preceding evening, the view of Alexander DeWolf's luxurious library appeared on the screen at once. The figure of the water supply magnate was in the identical rigid position in which they last saw it, the partly finished radiograms of the night before lying before him in the same disorder.

"That is certainly complete hypnosis," said Kirk.

"Yes," replied Philip, "but it is only mechanically induced, and we have no control over the man's movements or actions, other than the mere imposition of the trance-like state. This will avail us little if we are not successful with the revolutionary experiment on which we are working."

"You have not given up hope?" asked Kirk.

"No," was the hesitant reply, "but there is something I cannot seem to overcome. Some little thing perhaps, but it has so far proved elusive. And we have little time to lose. Heaven knows what Carter's next move will be when he discovers that his orders to DeWolf have not been carried out."

"Look!" exclaimed Kirk, glancing at the screen, "Someone is entering the room."

A portly little man in gray came in hurriedly and, as he approached the desk of the financier, they saw the narrow purple band about his left sleeve that indicated his attachment to the household in the capacity of valet. The look of astonishment that spread over the little man's features when he saw the rigid form of his master was ludicrous in the extreme, and Philip switched on the detectophone attachment, so they could listen to his comments.

"Great grief!" spoke the agitated voice of the servant. "What's come over the old boy?"

An experimental forefinger pressed to the flabby portion of DeWolf's jowl, and the little man almost tumbled over backward in his alarm.

"He's stiff, so he is," he gasped. "Dead, that's what he is. Help! Help!"

The pudgy little man was genuinely distressed, but Philip and Kirk could not repress their laughter at his flustered alarm. The excitable valet now rushed to a bell cord, and, at his nervous but vigorous pulling on its tasseled end, the clangor of the alarm was heard pealing through the adjoining rooms that were not visible in the screen.

"THIS is as good as a show," laughed Kirk as a motley crowd of servants rushed into the room. Some were attired in the familiar gray with the narrow stripes of purple indicating their positions. Others were scantily dressed and of disheveled appearance. All were greatly excited at sight of their master in his unnatural position.

"No, Jennis," spoke one of the braver of the men as he pressed a finger on the pulse of his master. "He ain't dead. It's a stroke of some kind he's got. Get the doctor."

The ensuing confusion proved entertaining in the extreme, and the laughter of the two unsuspected witnesses soon brought several members of the Inquisitor's party to the laboratory. The coming of meal time had brought most of them back to the vessel, and the coolness of its interior was a welcome relief from the sweltering and unaccustomed heat of the outside.

A secretary in purple had now arrived on the scene and he quickly took charge of the situation. His first radiovision call was for DeWolf's physicians and the second for Jerome Carter. At the appearance of Carter's visage in the imaged disk of the distant radiovision instrument, one of Kirk's followers growled out an expression of rage and hate.

"Hush," said Philip.

THE officious and acid-tongued secretary was hustling the servants from the room, and the witnesses watched in silence as he closed the door and tip-toed back to the side of the rigid figure. Observing the array of disordered papers, he picked one of the blanks from the desk and scanned its contents. He whistled in surprise and hastily gathered together the remaining papers and stuffed them into a compartment of the desk. The physicians soon arrived and their mystification over the condition of the patient brought smiles and chuckles from the watchers in the laboratory of the Inquisitor.

A consultation ensued, and when Carter arrived and learned the state of affairs he grew purple with rage.

"You confounded medical men!" he stormed. "Of what use is your knowledge, I'd like to know? Here is one of our greatest men, a victim of some sort of an attack, and you can't even diagnose the case. He had important work to do, and I presume it is still undone."

"If you refer to the radiograms," said the secretary, "they were not sent."

"Where—where are they?" sputtered Carter.

The secretary produced the sheaf and Carter grasped them and, after reading the first, carefully transferred the lot to an inside pocket.

"You will, of course, not speak of these," he remarked to the secretary.

"Of course not," was the response.

And Carter, his cheeks a bit paler than was their wont, stamped from the room without further converse with the physicians.

"We must follow him," said Philip hurriedly. "It will be necessary to watch his every move for a time."

Adjustments of the apparatus kept him in view throughout the speedy journey to his headquarters office on his private pneumatic tube car, which proved extremely difficult for Barton to keep in focus. Carter entered his own office in high dudgeon and rang for his secretary at once.

"Call an immediate meeting of the council," he thundered. "All except DeWolf—he's ill."

"Very well, sir," responded the secretary, proceeding to the radiovision instrument to carry out the order.

"Confound it!" growled Carter, glancing over the papers reposing on his desk. "Nothing done whatsoever. We'll have the rats from below stirring up trouble in no time."

He paced the floor impatiently as, one by one, the members of the council were notified. By the time the first arrivals began to appear, he was in a towering rage, and he herded them into the nearby council chamber like so much cattle.

"Gentlemen," he roared when all had assembled, "my orders of last night to DeWolf were not carried out, and we are in no better, quite probably in worse condition than yesterday."

"DeWolf refused?" asked one of the members hopefully.

"Refuse? He wouldn't dare!" shouted Carter. "No. He was overcome by some sort of a stroke and is still unconscious. But our indulgence in sympathy for him will do us no good. Another move must be planned and at once."

A HEATED discussion followed, and the listeners on board the Inquisitor were horrified at some of the blood-curdling suggestions offered by those present at the meeting. These men appeared to be entirely devoid of conscience where the gray-clad multitude was concerned. They spoke of wholesale slaughter of millions of their less fortunate fellow men as callously as they would have spoken of the destruction of vermin. But it was evident that the dominance of Jerome Carter was responsible. The others were of innately softer nature, but were transformed into the beasts they appeared to be by sheer force of his brutal will.

When they finally decided on a nation-wide round-up of millions of the workers by the red police, who had orders to shoot to kill, Philip came to the conclusion that it was time for drastic action.

"Folks," he said, "this decision means civil war back home. The workers will resist and the carnage will be dreadful. If we allow this to take place, it will be too late to save our country, and all our efforts thus far will have been of no avail. I am entirely against bloodshed—even in the case of Jerome Carter—and I had hoped to settle the great difficulty once and for all by beneficial scientific means. But I have thus far not achieved success in the experiments along these lines, and to gain time for the continuance of the investigation that may lead to the desired means, I am going to put Carter and his entire council in the hypnotic state in which DeWolf now lies. They can live for a month if necessary, as the physicians will be able to continue nourishment of the helpless bodies. But Carter will be unable to plot harm of the serious nature now proposed, and Kirk and I shall have time to work."

The crystal sphere still reposed on the projectoscope platform, and it was the work of a moment to start the apparatus that induced its eerie, shimmering radiance. With strict orders to his companions to look away from the ball, Philip turned to the screen of the detectoscope and coupled to its mechanism the energy of the projecting apparatus. With the appearance of the dim red spot in the center of the table in that distant council chamber, Jerome Carter stopped short in his final tirade and gazed unbelievingly at what he saw. When the blinking brilliance of the sphere materialized before the startled eyes of the group, there were cries of surprise and fear. Carter jerked himself to his feet and tried to draw back from the table, but it was too late. Already had the powerful influence of the ghostly image asserted itself, and his eyes widened in terror as the eye-balls twitched and rolled in rhythm with the flickerings of the unearthly, weaving light. When he saw his companions stiffening to immobility under the baneful influence, he struggled against it with all the strength of his mighty will. By sheer force of that will which had controlled the destinies of a great continent for many a year, he edged an inch or two from the table. Beads of perspiration rolled from his forehead and the cords of his neck stood forth like taut steel cables. For a moment it seemed that he would triumph, and Philip increased the power. With a shuddering groan Carter gave up the battle, and his body, stiffened like a statue as he stood on his feet, toppled to the floor with a crash that brought the secretaries from an adjoining room to the door with a rush.

"That's that," said Philip, touching a button that caused the view of the startled assistants to fade from the screen. "Now we can dine."

* * * * * * * * *

AN hour later, with Jack and Tom recruited as assistants, Philip and Kirk resumed their labors in the laboratory. They were safe as far as any danger of further activities of Carter were concerned, but haste was considered essential on account of the uncertainties that would develop in the essential industries and the resulting hardships that might be imposed on the multitude in gray, through the mere disorganizing effect of the strange happenings in Carter's council.

Late in the afternoon the men rested from their labors, and contact was obtained with President Haven through the medium of the detectoscope and its auxiliary instruments. His face was wreathed in smiles as he greeted the voice of Philip when it first reached him.

"My boy," he said, "I'll warrant this astounding affliction which has come to Jerome Carter and his council is some of your doing."

"Yes, Dad, it is," admitted Philip. "Is there any suspicion to that effect?"

"Not that I know of, though I have no doubt that those of the lower levels have some private opinions in the matter. But the newsspeakers have blared forth bulletins all morning, and the mystery of the thing has taken the public's fancy. The physicians are unable to help them at all. What have you done?"

"By means of an invention of mine, they have all been cast into a coma from which it will be impossible to revive them without my intervention. But they will remain unharmed as long as they are kept supplied with food and drink. The doctors know how to accomplish this, so there will be no danger whatever. It had to be done when I detected them in a nefarious plot to spread riot and bloodshed through the lower levels."

"How long will you keep them in this state?"

"Until I am assured of the success or failure of an experiment I am now making, the success of which will change the entire condition now existing in our country. I can tell you no more now. Meanwhile we'll leave Carter and his lieutenants asleep, and allow the public to conjecture as it pleases."

"Good work, Philip," approved the President. "Is Mona well?"

"Never better, Dad. I'll let her speak with you and the rest of the folks later."

They took their farewells, and the four men resumed their work in the laboratory, with many a chuckle at thought of the mystification of the great medical men and of the excitement of the news announcers and the puzzlement of the general public.

An Unexpected Blow

RANDALL HAINES was an exceedingly clever Secret Service officer, and his alert brain was aroused to unusual activity by the news of the strange and unprecedented illness which had attacked Jerome Carter and his associates. He turned the problem over and over in his mind, and, for some unaccountable reason, could not keep his thoughts from associating Philip Barton with the bizarre occurrence. But Philip Barton was dead. He had, with his own eyes, seen the Inquisitor plunge beneath the tossing waves of the Atlantic. Barton's vessel had not reappeared, and the locating later of the packing case which floated to the surface seemed certain proof.

But was it? Philip Barton was infernally clever, he reasoned, and it was just possible that by some means he had staged a fake accident and in some manner escaped. President Haven did not seem to be taking the loss of his daughter as much to heart as might be expected, though the family had taken to mourning and was rarely seen in public.

Try as he might, he could not rid his mind of the suspicion that, somehow, somewhere, Philip Barton was still in the land of the living, and that by the use of some secret invention of his, he had accomplished the impossible and caused the striking down of Jerome Carter and his council. If this were the case, it was a clear-cut job for the Secret Service, and Randall Haines needed no authority to proceed against Barton at his own discretion.

Without consulting any of his men, he made a secret trip to the executive mansion. He was passed by the guards without question, since they were men of his own force, and soon found a hiding place behind heavy drapes in Haven's own dining-room. Patiently he waited through the long period when the servants were engaged in the setting of the table for the evening meal. There were to be no guests, he deduced from the number of places set, and he gloated over the fact, for this assured him that Haven would talk freely with his family.

When the President entered the room with Mrs. Haven on his arm, Haines scrutinized their features carefully from his hiding place. The calm dignity of Haven's face gave him no clue, nor did the quiet reserve of the first lady of the land. But when the young-

est daughter entered, she was playfully jesting with the brother, Ross junior, and his suspicions were immediately aroused.

The first course having been served, the President addressed his butler, who stood conveniently close to his high-backed chair. "Parker," he said, "you may leave the room until I ring. We have private affairs to discuss."

Haines hugged himself in anticipation as the butler left, and, at the first words of the President, he gloated inwardly at the confirmation of his suspicions.

"Philip talked with me today," was his quiet statement.

"He did?" replied Mrs. Haven joyfully. "Are they all right?"

"Yes. And he is going to talk with us later and let us speak with Mona through this marvelous invention of his that requires neither transmitter nor receiver at our end of the ether circuit."

Frances and her brother jabbered excited comments until it was necessary for their father to reprove them.

"Please allow me to continue," he said. "It will be of much interest to all of you to know that Philip is responsible for the strange illness of Carter and his associates. But you must not speak of this to anyone."

"How on earth did he do it, father?" asked the son.

"I have not the slightest idea," was the response, "but we may learn more from him this evening."

RANDALL HAINES had heard more than enough and he withdrew from his position, cautiously proceeding through the darkness of the adjoining sunroom, until he reached the passage which connected with the main entrance to the apartments. He encountered none of the servants and was passed from the entrance by one of his own men, to whom he gave orders of silence and a warning that he would return within an hour.

With all possible speed he hurried to the storerooms of the department, where he searched rapidly for an instrument he had not used for years, a portable direction finder. He had some little difficulty in locating it, but finally emerged triumphant with a small black box under his arm. It was a short trip back to the executive living apartments, but the public car in the pneumatic tube seemed abnormally slow. When he greeted the operative at the entrance, it lacked just five minutes of the hour he had mentioned.

Sensing that something of importance was afoot, the operative had kept tabs on the movements of the President and his family, and he advised his superior that they were in the drawing-room. He further assisted him by pointing out a circuitous route to a small room, from which Haines could observe and listen with complete safety.

This proved to be an alcove separated from the drawing-room by portières similar to those behind which he had secreted himself at dinner time. It was dimly illuminated by a small amount of light that filtered between the drapes from the larger room and it was the matter of but a minute to set up the instrument he had brought and to get it in operating position. Then he sat quietly by, listening to the desultory conversation of the Havens and awaiting his chance of checking up on Barton.

All unsuspecting Haines' espionage, the Haven family discussed the matter in detail, even mentioning the fact that Philip and Mona were on an island in the Atlantic Ocean. Of course, they themselves had no knowledge of its location, but the direction finder would solve that. They spoke of the presence of Kirk Paulson and his companions with the exiles, who had supposedly been lost at sea. Haines congratulated himself more and more on his astuteness and on the coup he now saw he could make. His thoughts of the rewards that would be his when Jerome Carter recovered and learned of his invaluable services proved so alluring that he lost himself in contemplation of the honor and wealth that would come to him thereby. So engrossed was he in his own day dreams, that he lost much of the conversation in the next room, and he was startled from his reverie by the sudden realization that Philip Barton's voice had joined those of the President's family.

"Why, yes, Dad," were the first words that impressed him, "Mona is right here."

"Hello, folks," then came the voice of the eldest daughter.

Randall Haines was forced to admire the inventive genius of the man who had made this perfect two-way conversation possible through the ether with apparatus functioning at only one end of the circuit. But he did not delay in getting his direction finder in operation, and he soon had seven readings that checked within a small fraction of a degree with each other. This work completed, he listened to the remainder of the conversation, but it was entirely of a personal nature, and he learned nothing more of value. He made his way out the same way he had entered and was soon on his way to his own offices, where he planned to spend the night in preparation for an expedition against Barton.

His first move on reaching his office was to get out a large chart and to plot thereon the course indicated by the readings of his direction finder. To his surprise, this missed the coasts of both South America and Africa, extending into the Antarctic in a southeasterly direction, missing all charted islands on its way, the nearest to the line being Ascension and St. Helena islands.

"That is peculiar," he said to himself. They distinctly said that Barton was on some distant island. I must ask the advice of Paul Ott. He is an authority on geography."

He soon had his friend on the radio and asked him to visit him at once in his office. This request being acceded to, he loafed in his chair, puffing vigorously at his old black pipe, and turning over in his mind a plan to set forth in the morning to locate and arrest Barton and his party.

When Paul Ott arrived, the two men bent over the chart, and the newcomer followed with his finger the penciled line that Haines had traced on it.

"Why," said his friend, when his finger reached a point almost directly south of Ascension Island, "if you are looking for an island on this course, there is one just about here."

"But it is uncharted," objected Haines.

"I know it is. It is unnamed, too. But, in the year 2172, a pilot on one of the Cape Town-to-Pernambuco air liners observed a seething in the ocean below his vessel at this point and slowed down to investigate. An island of considerable size had been pushed above the surface by subterranean volcanic action, and the inter-

nal fires were being extinguished by the inpouring of the ocean. The spectacle proved to be so stupendous and awe-inspiring that his vessel was delayed two hours by requests of the passengers, who wanted to remain to watch this exhibition of nature's creative handiwork."

"But would this island be habitable now?" asked Haines.

"Undoubtedly," replied his friend. "It was visited by explorers several times before the great war and was reported as having cooled off. However, the war prevented further visits, and there have been no later ones that I know of on account of the conditions that have since existed in world relations. But by this time it should be covered with vegetation and, though its climate is likely to be quite hot, it should not be a bad place for adventurous humans to find a place of refuge."

"Eureka!" cried Randall Haines. "The very place that a man of Barton's caliber would choose. He, of all men, has probably visited this island before, and I'll wager my next month's credit that we shall find him there."

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AT daybreak the following day a sleek, speedy patrol ship of the Secret Service took the air, and in it were Randall Haines and twenty picked men of the service. Being a captain and having great discretionary powers, he was enabled to set forth on this expedition without consulting his superiors, and was thus able to keep his mission an entire secret. And his elation at the opportunity of obtaining a new feather for his cap was unbounded.

Hour after hour the helmsman kept to the course prescribed by Haines and, after six hours of travel at high altitude, the patrol ship neared the island on which Barton and his little group had taken refuge.

"Here we are," exulted Haines as he made out the tiny speck on the surface of the ocean which marked the position of the unnamed island. "That's Barton's Island below."

And the name was to attach itself permanently to the small body of land and was to become famous in history.

The patrol vessel slowly circled about, dropping gradually from its great altitude until within a thousand feet of the shiny bulk of the Inquisitor. Randall Haines could scarcely contain himself with joy at sight of the yacht, and he instructed his pilot to make as quick a landing as possible. His ship was thus brought to a sudden, somewhat jarring stop on the surface of the rocky plateau only a few hundred feet from the Inquisitor. He was the first to step from his vessel, and his men followed in haste with their weapons, ready and prepared for any emergency.

But there was no sign of life from Barton's vessel, and Haines and his men advanced cautiously toward its open door. When they were within fifty feet of the entrance there was a shout from behind, and Haines wheeled in his tracks to observe a party of about ten men and women, two of them in purple, the rest in gray. This party was advancing from the direction of the crater and its members were unarmed as far as could be seen.

"Halt!" shouted Haines, menacing the leader with his hand weapon, which was capable of firing either explosive bullets or the expanding flexible binders that were used for capturing a victim and rendering him helpless without serious injury.

Tom Easton advanced a step and Haines recognized him at once.

"Easton," he ordered, "remain where you stand. I arrest you all in the name of the law. Tell your companions to throw down any weapons they may have."

"We have none," replied Tom haughtily, "and the law of United North America does not reach to this island."

"Oh, yes it does, Easton," said Haines. "I have taken formal possession of it in the name of our Government. This island is unclaimed by other powers."

From the corner of his eye Tom Easton observed that Kirk Paulson watched the proceedings from the door of the Inquisitor for a moment, then withdrew hastily to the interior.

"All right, Haines," he said quietly, "we surrender."

"Where's Barton?" asked his captor.

"Somewhere about the island," answered Tom evasively. "We surrender, but don't think for a minute that we'll aid you in locating and capturing our leader."

One of the girls in gray started sobbing and Jack Sterns stepped to her side to comfort her.

"Keep your places now," ordered Haines. Then to his men: "Bind them, boys."

His men advanced on the group and, despite some little struggling on the part of the men, soon had the entire party bound hand and foot and seated on the hard rocks. Tom Easton, suspecting that Jack Sterns was about to let loose on their captors with some of the strongest words in his vocabulary, hissed in his ear and managed to convey to him the knowledge that those within the Inquisitor were aware of the state of affairs. The news somehow passed throughout the group, and all of the captives remained quiet, giving the appearance of submitting with humility.

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IN the laboratory of the Inquisitor were the remaining members of the Barton party, Philip and Kirk having been at work on the mysterious experiment on which so much depended. Aline and Mona had been assisting also, though their help consisted mostly of passing sprightly comments, which in nowise bothered the workers. When Kirk returned from his visit to the entrance door and advised them of the coming of the patrol ship and the capture of the other members of their party, there was consternation for a moment. Then Philip burst forth:

"Randall Haines!" he exclaimed. "Confound him for his spying. He has located us with a direction finder as sure as you are alive. But we'll fix him!"

He rushed to the projectoscope and replaced on its platform the crystal sphere which had been removed during some of their experiments. The apparatus was soon in operation and, at the screen of the detectoscope, Philip rapidly manipulated the controls until he had a view of the immediate outside. Randall Haines and his entire party had turned toward the Inquisitor and were advancing in close formation to its entrance. Not a moment too soon the image of the sphere materialized at the very doorstep of the vessel, and Haines drew back in alarm as his eyes were smitten by its dazzling colors, twinkling with vivid brilliancy even in the bright sunlight.

"What devilment is this?" ejaculated the captain of the Secret Service squad in alarm.

Philip increased the power rapidly and, in a few seconds, his enemies were stretched lifeless on the ground. A great cheer was raised by the prisoners, and Mona and Aline hugged each other in their glee. Philip and Kirk rushed to the outside, followed by the two women.

It was the work of but a few minutes to release the captives, and then Philip turned his attention to the lifeless forms of their enemies.

"Some fine material for our experiments," he commented, "especially Haines. Let us carry them inside."

The twenty men who had accompanied Haines on the trip to the island were carried to beds in various staterooms of the Inquisitor and there left to remain in their stupor until Philip chose to release them. But Randall Haines was carried to the laboratory and his body was straightened to a prone position on the operating table.

"Philip," said Mona, "you're not going to hurt him?"

"No indeed, dear," replied her spouse. "If my experiment works, I am going to make a good citizen of him. If it does not, he will not be harmed."

A small replica of the projectoscope tower that had been erected alongside the Inquisitor was wheeled to the end of the operating table and its short tube was swung around on the trunnions until the blunt end was directed toward the back of Haines' head.

The apparatus on which they had been working was hastily looked over and, at a nod of approval from Philip, Kirk connected a pair of cables from the jumble of instruments on the long table to the end of the projectoscope tube opposite the subject. A small motor-generator hummed merrily beneath the table at a touch of a switch, and the row of vacuum tubes along the wall lighted with their purple glow. A series of black-and-white keys like those of a piano were arranged beside the condensers and inductances that were massed before the lighted tubes, and Philip ran his fingers experimentally along these. In swift alternation the vacuum tubes responded with flashes of increased brilliancy.

"Okay, Kirk," he said, and Kirk pulled the switch that set the air of the entire room vibrating with the high frequency waves emitted from that harmless-appearing tube that was trained on the recumbent figure of Randall Haines. An aura surrounded the head of the subject, a hazy purplish light that hid his shock of curly black hair in a weird mist.

There was a cross-section chart of a human brain on the wall near the instrument and many notations had been made opposite various sections of the pictured gray matter. Philip scanned this chart closely as he ran his fingers over the piano-like keys. The vibrating air of the laboratory changed its rate continuously with throbbing pulsations that followed the movements of Philip's careful fingers. All those in the room watched in breathless wonder as Philip seemed like one inspired. Then he ceased his movements and turned to the subject with a thoughtful look in his eyes. Glancing once more at the chart, he pulled the switch and, with the resulting slowing down of the motor-generator, complete silence fell in the laboratory. The cessation of the throbbing pulsations, which had set the ear-drums of the watchers singing, left a queer echoing silence that left them all mute. The still figure on the operating table remained as rigid as before.

"All finished," said Philip solemnly. "Now we'll awaken him and learn whether we were successful or not."

A Successful Operation

PHILIP placed a stethoscope on Haines' breast and listened intently for a moment, then smiled his satisfaction.

"Heart perfectly normal," he said.

"But what do you hope has been accomplished in this experiment?" asked Jack Sterns.

The remainder of the group hung on Philip's words as he replied.

"Jack," he said, "and I might as well tell the rest of you, now that I think I have been successful, it is my belief that we have just altered the brain of Randall Haines in those portions controlling his sense of values of right and wrong, his conscience, and his morals. It has been known for centuries that, in a person of criminal tendencies, there is an abnormality of the brain. It has thus been customary to perform surgical operations on these diseased brains and thereby restore the criminal to normality and transform him into a useful citizen. But these operations have always been performed by actually cutting into certain portions of the brain and removing irritating objects, abscesses and the like, and in no cases have they been performed on other than actual criminals or insane persons. My invention, which I shall call the psycho-convertor, is intended to perform such operations bloodlessly and painlessly by subjecting the involved portions of the brain to the action of high frequency electrical vibrations of a healing and vitalizing nature. These rays penetrate like the X-ray and, by setting the brain cells in rapid oscillation, can produce complete changes of their structure and functions. If we are successful, we shall find that Randall Haines is an entirely different person when he returns to consciousness."

"Wonderful! Astounding! Revolutionary!" were the comments that greeted this announcement, and the entire party gathered closely about the operating table to observe the next move to be made by the great inventor.

"Stand back a bit, folks," warned Philip. "If this thing is not a success, you may come to personal harm when he awakens. And it is a very simple matter to bring him around."

The group drew back a few feet and Philip wheeled to the side of the operating table a small stand on which there was mounted a small glass bulb with several projections to which wires were attached in much the same manner as on an X-ray tube. This was adjusted so that the surface of the cathode presented an angle of forty-five degrees to the head of the patient, and when Philip set its energizer working, there was a slight crackling sound from the vicinity of the tube, but no visible rays emanated from it.

RANDALL HAINES stirred slightly, then opened one eye at a time and looked dazedly at the white ceiling overhead. Suddenly he sat erect with a quick, inquiring glance about the room. He peered into the eyes of his erstwhile enemy, Philip Barton, and his face was wreathed in a friendly smile.

"Barton," he said, "I have been entirely wrong in

making this trip to capture you. In fact, I have been wrong for years in my feeling toward you. If you can forgive me, I wish you would give me your hand."

"Gladly," said Philip, extending his hand and gripping that of Haines in a friendly squeeze. "How do you feel, old man?"

"Great!" replied Haines, springing from the table to the floor and surveying the astounded group. "Never felt better in my life, Barton. But what on earth have you done to me?"

Philip smiled enigmatically. "I'm sorry, old man; it was necessary to hypnotize you and your followers in self-defense," he said. "But I am glad you are taking it in this manner."

Haines looked puzzled for a moment. "Perfectly all right," he said. "You did the only thing you could do humanely. You should have handled us far more roughly. But I can't understand whatever possessed me to persecute you all these years and to embark on this foolhardy expedition. Why—why—I must have been crazy. And Carter—Jerome Carter—how could I have adhered to him for so long? At last I have come to my senses, and I swear I shall make things up to you."

Philip glanced in the direction of his friends with a distinctly warning look. They understood that they were to say nothing.

Then Randall Haines laughed aloud. "Then this is the same thing you did to Carter and his council?" he asked.

"Yes," grinned Philip, "and I'll awaken them all in good time. Meanwhile we should awaken your companions. Can you guarantee their friendliness to my followers?"

"Absolutely," said Haines. "They will obey my orders implicitly, and I'll confess my error and call them off at once."

Haines' men were brought singly to the operating table and individually subjected to the action of the resuscitation tube. In the case of each man a few words were spoken in private by Haines and instructions given regarding their future conduct toward Barton and his party. When the last man was restored to normal, their leader gave them a talk concerning the action that had been taken by Barton against Carter and the members of his council. Philip and his friend exchanged wondering glances at the evidence of so complete a change in the attitude of Randall Haines. He had actually become a champion of the cause of the gray-clad multitude and held forth in much the manner of one of their own number at home, with the exception that he spoke even more boldly. And his change of heart toward the dictator was a revelation. He swore that he would devote every effort toward assisting in the rehabilitation of the Republic of United North America as a true republic and in the overthrow of the dictatorship of Carter.

When he had finished, his men expressed their amazement in no uncertain terms, but agreed that there was much in what he had said, and that they would support any action that promised success, since they believed that his words were frank statements of truth. That some of them were thinkers was evident from comments they made, but it was equally evident that they shared the general lackadaisical viewpoint of the wearers of the purple and were, on general principles, content to let things remain as they were, provided they themselves continued in their present positions of favor with the power behind the administration. It was, however, clear to all that they were cognizant of the injustice of existing conditions and would prove friendly to the wearers of the gray, provided the power of Carter and his council was in some manner overcome.

The entire proceedings were a revelation to all of the Inquisitor's party, and more especially to Kirk's followers, who had been brought up with the idea that all wearers of the purple were their implacable hereditary enemies.

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WHEN the Secret Service squad left the Inquisitor to explore the island, some of them walked arm and arm with members of Barton's party, and it was not long before extremely friendly relations were established. Philip called Haines aside and asked him to return to the laboratory and there discuss with Kirk and himself further action to be taken with regard to the elimination of the dictatorship. Haines agreed enthusiastically and followed Philip to the laboratory, where the three made themselves comfortable, while Philip expanded on his immediate plans.

"Haines," said Philip, "it has given me more pleasure than I have known for many a year, to find you so completely in sympathy with our ideas for the alleviation of conditions in the lower levels of the great cities of United North America. And, if you will align yourself with us, it will be of great advantage to the cause."

"I most assuredly will, Philip," said Randall Haines sincerely. "I don't know what it is, but there was something about that hypnotic stunt of yours that has altered my outlook on life entirely. I feel like a new man and more at peace with my conscience than at any time since I was a boy. What are your plans?"

"They are really quite simple, Randall," said Philip. "The eleven men who are still in the hypnotic state back in our country must, of course, be returned to consciousness. My one unalterable decision in this entire matter was that no bloodshed would be countenanced. This is a revolution, but there are to be no fatalities. Now I'll just ask you one question: What is your idea of the outcome of the thing if, by some miracle, Jerome Carter should experience a change of heart such as the one you have just gone through?"

"If he did not lose his forceful personality and tremendous will," replied Randall Haines, "I am confident that the entire course of events would be altered. I believe he would bend every effort toward the undoing of all harm that has been accomplished by his actions in the past, and that he would restore the people to their rightful heritage of true liberty and freedom and support the government in all things, to the end of benefiting all in the country and favoring none. It would be a marvelous change, but it is inconceivable."

"Not impossible, Randall," stated Philip. "You have heard of, perhaps you have even witnessed, operations on the brains of criminals which have removed from them forever the criminal tendencies and restored to them normal, well-balanced organs, thus transforming these criminals into useful citizens. I have recently perfected a means of performing such operations by the use of high-frequency vibrations that act on the proper brain centers and completely alter the functioning of the particular portions affected. These vibrations can

be employed for all brain operations and do not necessitate cutting into the cranial cavity. I propose to return to New York and to use my apparatus on Carter."

Haines opened his eyes wide. "Is there no danger to the patient in such a procedure?"

"None whatever," Philip replied. "In fact, the health of the patient should be improved. And it is my own thought that if Carter is transformed into a straight-thinking individual, it will be unnecessary to experiment with his associates. What do you think?"

"I think you are absolutely right, Philip. He can keep them all in line without the slightest trouble. As a matter of fact, I feel sure that several members of the council will welcome the change."

"That is my idea also," said Philip, "and I am anxious to return immediately and go ahead with the plans."

"Can it not be done from here by means of the searching and penetrating rays of the detectoscope?" asked Kirk.

"It probably could," said Philip, "but I am afraid to chance it in so important a case. We will experiment later along those lines, but not on human beings until there is absolute certainty of success. The human brain is an exceedingly delicate organ, you know."

"It beats me, Philip," interjected Haines admiringly, "how you are able to accomplish such unheard-of things one after another in quick succession. And now that I am in your laboratory, I am very curious. For one thing, I should like to know how on earth you have been able to converse with your friends and relatives at home and how you put Carter and his gang to sleep from this far-off point."

PHILIP laughed and consulted his watch. "I'll tell you what we'll do, Randall," he said. "It's quite early in the day here, but it is mid-afternoon now in New York. We'll start for home at once, so as to arrive there in the early evening. You remain on board the Inquisitor and allow the pilot to return the patrol vessel to its own berth. On the journey I'll demonstrate my latest inventions; those that have permitted us to accomplish the things you have mentioned. What do you say?"

"Nothing would please me better," said Haines, his eyes shining in anticipation like a boy's. "The sooner the better."

"It's a go," said Philip, starting at once for the outdoors, where he set up a call for all members of the party to return to the vessel.

They hurried in from all directions and, with the help of Randall Haines and his squad, it was a short job to dismantle the projectoscope tower and stow its sections away in the compartments of the Inquisitor. Haines gave his men their orders and they returned to the patrol ship, which was soon ready for the return trip.

Philip checked up on his own party and found that all were present with the exception of Kirk and Aline.

"Kirk, Kirk!" he called.

"Coming!" came an answering voice from the rim of the crater, and the sheepishly smiling face of the tall young man in gray came into view as he tugged at Aline's hand and assisted her to the level surface of the plateau.

"I went to find Aline," he explained as they approached the grinning group at the entrance of the Inquisitor.

"So I see," laughed Philip.

Aline spoke up brightly and unabashed. "Kirk and I have just become engaged," she announced.

"Great stuff, Aline," said Philip, grasping her hand and turning to the embarrassed Kirk. "Congratulations, old man," he continued, transferring his handclasp to his friend of the past several years. "Neither of you could have done better."

Mona had the little girl in gray clasped in a close embrace, and she whispered words of happiness to her.

There was a shout from the patrol vessel, and, with a swish and the waving of many hands from its windows, it rose vertically and was soon lost to the sight of the watchers, who waved their farewells gaily.

There was no further delay and it was not long before the Inquisitor had taken to the air and was on its way to far-off New York.

In the navigating cabin where Philip had just relinquished the controls to Jack Sterns, little Aline Sarov, her hand in Kirk's, spoke sadly as they watched the outlines of the island fade from view far beneath them.

"Kirk," she said, "I'd like to come back."

"Me too," said Kirk.

"Perhaps you may," said Philip. "I intend to establish a colony here after things are settled back home—perhaps erect a laboratory of my own at the rim of the crater. It is an ideal spot to get away from the rush and bustle of our modern life."

"Yes," agreed Randall Haines, "and it shall be known as Barton's Island. I'll see to that. You know, I staked claim on the island for our government."

Philip grinned, but Mona and Aline applauded enthusiastically.

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SEVEN hours later, in the bed chamber of Jerome Carter, the apparatus of Philip's psycho-convertor was adjusted in position at the bedside of the sleeping dictator. Gathered in a silent group were Kirk, Randall Haines, President Haven, and three physicians who scowled and hem-hawed over the proceedings.

When the motor-generator commenced its musical hum Randall Haines uttered a startled exclamation.

"Why, you old rascal," he said to Philip, "that's what you did to me. Why didn't I realize it before?"

"Sorry?" asked Philip, smiling, as he continued with his adjustments.

"Sorry?" repeated Haines. "I'll never be able to thank you enough. But we'll speak more of that later."

The operation was soon completed. Then, replacing the ray director of the psycho-convertor, came the resuscitation tube. All witnesses held their breath as its sputtering commenced, and Carter's eyelids flickered.

In less than a minute the great man bounded from his bed and stared about him unbelievingly. His eyes shone with a new light as they fell on Philip Barton. Then he advanced slowly until he faced the inventor. Hesitatingly he stretched forth his hand and touched Philip's cheek gently.

Then he spoke in a choked voice. "Thank God, you're alive, Philip," he said. "How glad I am."

He grasped both hands of the man he had so recently conspired against and wrung them, as if his soul's salvation depended on the friendship of the inventor.

(*Continued on page* 421)

secure in Russia. He had come from Russia to America because America, especially New York City, was thought by all the world to be the great center of unused wealth.

Thanks to his very creditable letters of introduction, he was at once granted an interview with the President of the New York university. That gentleman was glad to spend some time with the celebrated visitor from Russia, in spite of the fact that he was very busy with the pre-commencement work, in addition to being greatly worried over the calamity that had befallen his co-workers. Chenenko lost no time in giving his reasons for leaving his native land.

"Honored sir," he began, "I need money—lots of money—and many learned scientists for my students. I need a large place to work in, with very expensive apparatus. If you give me all this, I shall be glad to stay here the rest of my life in your so remarkable university. Otherwise I am compelled to go to the far-west city of Chicago."

"You will not have to go to Chicago!" replied President Jacob Hubler in a very decided and emphatic manner. "Tell me what line of work you are doing, the variety of research, and I will do everything in my power to assist you."

In answer, the Russian went into the most minute details, describing the work of his lifetime. At the end, Professor Hubler was dazed, but convinced. At least, he was willing to give the biologist his opportunity to succeed or fail. Success, he knew, would be an eternal triumph for New York over the entire intellectual world.

All that summer Professor Chenenko and a group of the greatest surgeons in the East worked with feverish haste. Enormous laboratories were hastily constructed. Conference after conference was held. Meantime professor after professor left, apparently for the summer vacation.

September finally came. The University of New York opened, as usual, to a greater number of students than had ever before matriculated. Classes were at once started. The professors, capped and gowned, were all seated in their respective classrooms, lecturing more brilliantly than ever. Junior professors circulated through the university, assisting with the scientific work, holding quizzes and helping backward pupils. There was every evidence that this would be the greatest year in the educational history of New York. The statisticians pointed with pride to the fact that the enrollment in the Eastern city was three thousand more than in Chicago.

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A SMALL group of men gathered in a Chicago hotel bedroom. The room had been secretly selected on purpose for this meeting. A multi-millionaire and two scientists were present. The captain of industry looked, and was, thoroughly "hard-boiled." Without mincing words, he began:

"Gentlemen, when I spend a million dollars, I expect results. All that I can see that has happened in the last eight months is this. Instead of New York having one thousand more pupils than Chicago, as in former years, she has three thousand more. All the professors are well, more keenly intellectual than ever; there is a spirit of success throughout the entire New York faculty, and they are boasting that they have Chicago on the run at last. Meanwhile, you two men have my million dollars. What about it?"

"Something went wrong," replied one of the men. "You know that we performed that experiment on a dozen dogs. Then we tried it on those three men, and in every case the sarcoma killed in three months. We know that every New York professor, including President Hubler, was thoroughly infected on the night of the banquet. Everyone ate heartily of the sweetbread patties that evening, and we had enough sarcoma cells in them to kill a thousand men. And we know this. Some of those men actually developed *sarcoma malignanta.* Our detectives assured us of that. Then these two hundred men disappeared as soon as college was over in June and when the fall term opened, not one of them was absent from his lecture room.

"Something happened. It is unreasonable to suppose that all of them escaped infection. It is more than likely that most of them developed this sarcoma. Our experiments show that once the infection occurs, it is a hopeless case. The tumor travels upward from the feet till it kills."

The millionaire frowned.

"Meantime not a word from them to indicate that they suspect foul play?"

"Not a word. Everything is as fine as can be. In fact, they have even gone so far as to offer the Chicago University fifty post-graduate courses free of charge. That is a crowning insult. As if Chicago could not furnish its own post-graduate courses!"

"Then all I get for my million is failure?"

"It is not our fault," answered the third man, shrugging his shoulders. "We did our best. They were just too clever for us. Probably they discovered a curative serum."

"But you told me there was no cure."

"We do not know of any."

And there the matter rested.

The rivalry between the two universities went on, but in some way, for some intangible reason, the New York university gradually assumed the lead in educational matters. Within ten years many of the professors at the Chicago university began to show the signs of old age. Their mentality was no longer capable of absorbing, valuating and lecturing on the new facts constantly being discovered. The new generation seemed strangely lacking in educational initiative, when compared with the older men. It was a peculiar circumstance, however, that the advance of old age did not seem to affect the faculty of the Eastern city. Those men grew more brilliant than ever. Neither did age wither nor did time effect decay; the faculty seemed to live on in perpetual vigor, constantly increasing in brilliancy.

The captain of industry from Chicago was defeated but not depressed. He was more determined than ever to place his beloved university ahead of the Eastern seat of learning. Accustomed to solve difficult questions in the business world, he was eager to attack the unknown problems in this inter-city rivalry. There was one point that he could not solve:

WHY DID THE PROFESSORS OF CHICAGO GROW OLD WHILE THE NEW YORK PROFESSORS REMAINED YOUNG?

That question kept the capitalist in a state of neurotic insomnia. He consulted every noted physician

and scientist in the Mississippi Valley. Not one of them was able to give him a sensible or reasonable answer. So, in despair, he determined to investigate the matter himself. He called into his service the head of a world-famous detective bureau and told him to find just what the difference was in the lives of the two sets of teachers.

It took only a short month to secure a report. It seemed that the New York men lived in seclusion in the university buildings. All of them, including the president, were curiously separated from their families. They took no exercise; they seemed to save in every way their physical strength. They lectured in low, even tones. Always they were seated and they made no gestures. The students were never allowed to go near them or visit them. All special work was done by lesser members of the faculty. These old members of the faculty had, for ten years, refused invitations to all banquets, had never taken any part in politics, and were absolutely unavailable for public speaking. Evidently, they were leading abnormal lives, which, while very anti-social, still enabled them to perform their collegiate duties in a very efficient manner.

The most interesting part of the report was their manner of study. It was discovered that reading stands had been constructed which held the books at a convenient distance from the eyes. When one of the professors wished to read, an assistant placed a book on this stand and slowly turned the pages. It appeared that the readers never lifted a hand to personally turn over a new leaf.

ALL this information simply gave the Chicago millionaire more bills to pay and more inexplicable facts to think over. To do him full justice, it must be said that he approached the problem in a systematic, logical manner. These New York men were retaining their youth and mental vigor while the Chicago men were growing old. The financier ascertained a variety of facts about the Eastern men. The great, outstanding ones were that they refused absolutely to take any physical exercise or to indulge in any social activity apart from the classroom, and it even appeared that they had given up family life, remaining in seclusion in the university. With this difference to explain, the rich man from the West called in the aid of the most noted authority on *geriatrics*, or the diseases of old age.

"It is a most peculiar circumstance, Mr. Bowlers," agreed Dr. Caruth. "Following the receipt of your letter, I went to New York and, as far as I could, without arousing comment and criticism, I looked over those men. I heard some of them lecture. They seem to be mentally alert and in the best of health, but I never saw men that were so nearly motionless. They change their facial expression while talking, they move their eyeballs and wink, but beyond that, they are immobile, just like statues. There is certainly something very peculiar about it—but I can assure you of one thing; those men have a surprising mentality for their age, and they look much younger than they really are. I never thought that complete muscular inertia was a beneficial thing; in fact, I have always advised my old people to move around and take exercise. Perhaps I was wrong. The surprising point is the ability of the university to induce two hundred men of such brilliant mental prowess to lead lives of such complete isolation. If they are doing this out of devotion to the university, it is the most wonderful example of group sacrifice for education that I have ever heard of."

The situation was indeed a peculiar one.

"Put yourself in their place, Dr. Caruth," said Peter Bowlers. "Would you lead that kind of a life unless you were forced to?"

"I certainly would not."

"Do you suppose they are being coerced?"

"Certainly not all of them—not two hundred intelligent men."

"Then, why are they doing it?"

"I don't know."

Just then the private secretary brought in a radiogram from New York. Bowlers opened it impatiently. Then he swore as he exclaimed:

"What do you make of this, Dr. Caruth? This is from the head of my detective agency. He says that those New York men are acting the way they are because they cannot do anything else. He believes that something is wrong with their bodies. Has positive proof that their hands are made out of something like wax."

"Fairy tales!"

"Maybe so. But I am off to New York in my private plane. I just have to know more about this matter. Come with me?"

"Can't leave my patients; wish I could."

Just as soon as one of the fastest planes in the world could carry him, Peter Bowlers went to New York and was at once closeted with the detective who had sent him the radiogram.

"It is all true, Mr. Bowlers," the detective said earnestly. "We believe that those professors are there because they cannot move. They are closely guarded, but our student-detectives, wearing very strong eyeglasses, have been working on the problem from that viewpoint. Most of the professors wear gloves all the time, but those who are without gloves have hands that seem to be made out of something like wax; and if they have bodies, those bodies are very insensitive. We were able, in a few cases, to stick pins into them, and there was absolutely no reaction. Those men just sit there, twenty-four hours a day, as far as we can tell. We established an observation point in an overhead garret, and we have had men at the peep-hole for over a hundred hours steady, and the professor under observation has never moved."

Peter Bowlers took the detective by the shoulder and shook him roughly as he whispered:

"Listen to me, man! I am worth over two hundred million. You solve this mystery, if it takes the whole amount to pay your bribes or any other expenses. You find out what is wrong with those men."

"I can spend anything?"

"Anything. The sky is the limit, and I am going to stay right here till you deliver the goods."

Peter Bowlers did just the thing that he threatened to do. He stayed in New York for over two weeks, eating his heart out with desperate longing to solve the problem. Then, like an explosion, everything became plain.

"We should have suspected it before," said the detective. "The reason those men don't move is because they are unable to. They just can't. THEY ARE HEADS WITHOUT BODIES, and every one is con-

nected up with a series of tubes through which some kind of blood is pumped into their heads. I suppose there is a compressed air tube that enables them to talk."

"I don't want any drunken man to use my money," commented Bowlers. "Expect me to believe that? Draw your pay and quit!"

"But it is true."

"Impossible!"

"Absolutely true. I saw it with my own eyes. Just heads! That is all they have been for ten years. They had a Russian come over and amputate their heads from their bodies or their bodies from their heads, whichever way would be correct; either way sounds peculiar to me. It seems those professors had some peculiar form of cancer, and this Russian saved their lives by cutting off their infected bodies. Odd? I'll say so. Then he kept the heads alive by pumping something like blood into the arteries of their necks and pumping, or sucking, it out of their veins. Do you understand? Made an artificial circulation of blood through their heads; kept them alive and working. He pumps air through their larynx and they are able to talk and give lectures. I even found that they had a celebrated voice culturist give them special training in talking with the new source of air.

"O course, this Russian was the brains back of the entire programme. I felt that if we could secure his private papers, we might learn something. I found a man that could read Russian handwriting, and then the old scientist received a wire to come to Boston to consult about a case. Of course, the patient was one of our operators. Just as soon as the Russian left the city, we got into his office, and, locking the door, went through his papers. We found just what we were looking for, a private diary, giving in detail everything he had done since his arrival in America. It seems that he was forced to come to America on account of lack of funds to carry on his work. So he went to see President Hubler of New York University. Here is the way our Russian interpreter translated that part of the record:

At last I have come to the place where I can accomplish my long hoped for ambition. I now have friends and unlimited sources of money. More money than I ever thought existed. My poverty is at an end. What a fine man President Hubler is! I told him I was interested in the transplantation of organs; that in the future the learned men who developed kidney disease would have their damaged kidneys taken out and healthy organs put in. I told him that only three essentials were necessary: first, to remove the organ before actual death occurred; second, to keep the organ alive till we were ready to use it; and third, to successfully unite it with the new body. Then I paid full honor to my dear teacher, Professor Brjuckenenko, who taught me the cardinal points in this work. I explained that as early as 1929 this wonderful biologist and surgeon had cut a dog's head off and had kept that head alive for as long as three hours by the establishment of artificial circulation. That was many years ago, and it was necessary to explain the great advance we had made since that time. How well I remember the excitement that followed Brjuckenenko's announcement! George Bernard Shaw had a lengthy interview published in the *Tageblatte*. Shaw thought that it might be the means of indefinitely prolonging the usefulness of great men of affairs. He suggested that when a noted man developed a condition, like cancer, his head should be amputated at once and his intelligence be preserved for the benefit of future generations.

President Hubler was greatly interested in this. He asked if I had improved my master's technique. How strange that he thought I had worked for all these years without progress! I brought in my dog, Grecco, in his little coffin-like box, my wonderful Grecco, the dog who had lived without a body for ten years, thanks to my remarkable artificial circulation and synthetic blood. I had Grecco bark and show pleasure when I scratched his head. The president asked me if I could do that with a man. How strange that this head of a great university has no imagination. If it can be done with a dog, why not with a man? I said, "Yes. Give me the man, and I will do it." He asked me if I could do it with two hundred men. I said, "Yes, if I have ample money and trained assistants." Then he told me that all the faculty were going to die of sarcoma, and asked if I would take the responsibility of operating on them. What a wonderful thing! It will make me famous forever! To save two hundred learned professors to posterity! I am to begin as soon as graduation is over. In the meantime, I will at once start building my apparatus.

The conversation with President Hubler brought out many interesting points. Fortunately, in every part of the discussion I was able to satisfy him of my ability. Especially were we interested in the effect on the intelligence of these men we expected to decapitate. Would they retain their mental poise, increase their educational ability as years passed? Or would they grow old, decrepit and senile?

We also had to discuss the matter of their talking. Would they be able to lecture? What change would appear in their voice? I was sure that the supply of air could be so accurately measured and controlled that they would be able to talk as perfectly as ever. In my operations I would be sure to conserve the nerve that controlled the movements of the laryngeal cords.

How fortunate it was that I had perfected the manufacture of synthetic blood! What a wonderful fluid that was! A fluid that performed every vital function of human blood, and yet, which could be scientifically and accurately manufactured outside of the body, and which could be perfectly cleansed of all impurities every time it made one circulation of the head. That is what is keeping Grecco so young. And I am sure that our bodyless professors will not grow old. I do not know how long they will live, but I am sure, if they are carefully guarded against infections and if machinery is, oh, so constantly watched, that they will live on for many years.

"How does that sound to you, Mr. Bowlers? Do you still think that I am drunk? Here is a later entry which tells how the experiment was carried on."

July, 10th.—I am busy teaching my technique to a dozen of the most expert surgeons that I have ever

seen. Every man is first required to operate on at least a dozen dogs. The pumping machines are being built very rapidly. My chemists are all working on the preparation of the artificial blood. They have remarkable ability to learn quickly. We must work rapidly, for all of the two hundred heads must be ready to lecture by Sept. 20th. Besides, the sooner we free the heads from the bodies infected with sarcoma, the more sure we will be of their going on with their useful work.

Bowlers jumped out of his chair as he shouted:

"That explains everything! I understand now why they did not die from the cancer eleven years ago. You send a full report to me. I am going back to Chicago to see some men there. You keep on working. You are probably right, but it is so absurd that no one will believe us; so we might as well keep quiet. You bribe your men to secrecy and keep on working. I will come back."

PETER BOWLERS went back to Chicago and located the man who had performed the sarcanoma inoculations for him eleven years ago. This man, Dr. Albert Johnson, was a remarkable scientist and a very unprincipled man otherwise. He was always willing to do anything, provided there was enough money in it. He had scattered cholera bacteria all over Northern India for the Russian Government, and had no scruples in endeavoring to kill the entire New York faculty. He was more than surprised to see Bowlers. The last interview that he had had with that man was not a very pleasant one. The rich man lost no time in telling the reason for his visit.

"You remember that sarcoma experiment, Johnson?"

"Very well, Mr. Bowlers."

"I gave you a million for doing it and at the time I felt that in some way you had double-crossed me. You know that not one of those professors died?"

"Yes, I guess that is right."

"You cannot blame me for being annoyed. I was sure that you made a bust of it. I learned something in New York City that makes it necessary for me to apologize to you. The sarcoma infection was a 100 per-cent success."

"But not a one died."

"No. But they had to do something that I never thought was possible. They took those two hundred professors and amputated them one by one at the neck. Did you know that a surgeon could do that?"

"I know that years ago a Russian, called Brjuckenenko, claimed to be able to do something like that with a dog's head, but he only kept the head alive for three hours."

"Did he have a pupil?"

"Perhaps. Yes, there was a peculiar recluse, by the name of Chenenko. I remember reading that he had come to America and then he disappeared."

"He is the man who did the work on the New York faculty. Here is the way I have it figured out. Every one of those men developed your new form of cancer. They realized the danger—their surgeons saw that it was hopeless. Perhaps they suspected some of us men from Chicago, but the charge was so unheard of and the proof so slight that they felt it best to keep quiet. Then this Russian came and they saw a hope. They were sure that the men were all doomed anyway; so they had him teach them how to operate and make the necessary pumps and artificial blood—and now, for over ten years, there have been just *heads* teaching there, but they are young and vigorous and brilliant and our faculty is growing old, almost senile."

"I believe that you are right," replied the biologist.

"Well, what are you going to do about it? I hate that New York school just as much as ever. They have the best of us now. Cannot something be done? Disconnect the pumps? Poison them in some way? Hit them on the head with an ax. Anything to make it possible for Chicago to regain her lost supremacy."

"You say there is no sign of age?"

"Evidently none."

"Seems that something ought to be done to put them out of their suffering."

"Oh! They do not seem to be suffering. In fact, I believe most of them are having a good time. But that is not the point. They are making it possible for New York to have a far better university than Chicago. Can you suggest any remedy?"

"Let me think over it. I suppose there would be the usual fee?"

"Yes, one million exactly—paid *AFTER* you succeed. I am not going to pay that much money for any more failures."

"All right. That is a gentleman's agreement."

"It will have to be. Suicide to put it on paper."

And that was the end of the conference.

THE next spring was a tragic one for the university of New York. Within a few weeks over half of their professors died of apoplexy, and many of those who escaped death were so paralyzed that they were unable to lecture. The death rate was alarming. It is true that the aged Chicago professors were also passing out, but not at such a rapid pace. The New York savants who remained alive were irritable, forgetful, had periods of alternating laughter and tears, swore at their classes, began to sleep when they should have been lecturing. Necessity forced the employment of many of the younger assistants as full professors. A large per cent of the pupils, disgusted with the educational facilities, left for other colleges.

One day, near the time of graduation, the president of Chicago University received a message from the president of the New York college to come East for an interview. The message was brought in such a way, that, in spite of the natural pride of the man from Chicago, it was impossible for him to refuse. He therefore took the first passenger plane East, accompanied by the committee who had brought the invitation.

The meeting was held in the private study of the president of New York University. Jacob Hubler looked more dignified than ever as he sat motionless except for the restless movement of his eagle eyes. At the meeting, the presidents of a dozen of the great colleges of the land were present. These colleges, while smaller than the two giant schools, still were colleges with remarkable histories and excellent faculties. Professor Chenenko was there, old, yet remarkably alert, both mentally and physically. Dr. Albert Johnson was there, decidedly worried and closely guarded by two plain-clothes men.

The study contained nine windows. In each was a

stained glass, with the picture of one of the nine muses. Through the colored glass the rays of afternoon sun came, sprinkling the oaken floor with splotches of varicolored beauty. Silence covered the gathered men like a sullen sunset after a tempest. The fact that no one, except Jacob Hubler, knew the real scope of the meeting, filled all with anticipatory excitement.

"Gentlemen," that worthy began. "You are invited here to listen to one of the most amazing stories that it has ever been the fortune of a group of educators to hear. As you well know, for many years, there has been a sharp and unpleasant rivalry between the universities of New York and Chicago. This rivalry caused intense feeling at the annual football games, and finally, in a fight after a game, several of the Chicago men were killed. I need not say this was an occurrence that pained us all greatly, and we tried in every way to atone for it, but in vain. The feeling between the two colleges was now one of hatred of the worst kind. Peter Bowlers, the multi-millionaire, was the leader in this song of hate. He paid a scientist one million dollars to infect the entire faculty of New York with a new and deadly poison, a form of cancer, a malignant sarcoma, which would kill in several months. The man who did this, who so prostituted his profession, Dr. Albert Johnson, is with us today.

"As a result of his activity, the entire faculty, including myself, developed this *sarcoma malignanta.* We realized that we were fatally infected. We also believed, though we fought against the idea, that, in some way, the Chicago University was behind our trouble. Just then Professor Chenenko came to us from Russia. He proposed the amputation of the entire body of the sarcoma victim and the keeping of the head alive by the means of artificial circulation and synthetic blood. In desperation, we all submitted to this operation, and for the next eleven years our heads taught and lived, while our bodies molded away in the burial place that we had prepared for them.

"Thanks to the power of the synthetic blood, we lived, even though we were but a small fraction of our former selves. The part that lived was the intellectual part, while the part cut off was simply so much useless baggage. The men in Chicago began to age and die, but we seemed to have developed into ETERNAL PROFESSORS. The efforts of the paranoiac, Bowlers, and the criminal biologist, Johnson, did not succeed. New York continued to lead in educational fields.

"You will not believe this till you actually see me. This body under my head is simply a dummy. Later on Professor Chenenko will show you the exact mechanism that has kept my head alive all these years, and the manner in which I have been supplied with air so that I have been able to talk and lecture to my classes.

"Bowlers was furious, and became more paranoiac than ever. He finally engaged detectives, and they found out the real condition. Then he again sought the help of Dr. Albert Johnson. He offered him a million if he put my faculty out of commission. Johnson went to work on the problem. He knew that the fluid forced through our brains was a synthetic blood. In disguise, he visited our workroom and finally became acquainted with one of our best technicians. The unfortunate man was in debt, his wife was ill and he needed money. Johnson bribed him, and as a result, was able to place an enormous quantity of adrenalin in a new lot of synthetic blood, which they had found.

"That blood was used the next day. Throughout the brains of our best men, in fact, through 199 of our professors, this serum, heavily charged with adrenalin, circulated. In order for you to realize the result, I must explain to you the effect of this substance. In large amounts it causes small spots of decay, necrosis in the arteries of the normal body. These areas of necrosis either break, causing hemorrhage, or they calcify, resulting in *arterio sclerosis,* or hardening of the walls of the arteries. Within a short time, many of our best men died of apoplexy, and those who lived developed the mental symptoms of *arterio sclerosis* so rapidly that they became useless as teachers.

"Fortunately or not, I escaped. Ever since my operation, Professor Chenenko has trusted no one to make my synthetic blood except himself. As soon as he performed autopsies on some of our dead friends, he suspected the work of an enemy and an examination of the serum showed what had been done.

"However, we should never have fully known the truth had not Peter Bowlers been seriously injured. Realizing that he was fatally hurt, he felt that he could not die with this load of sin on his conscience. He made a complete confession and signed it a few hours before death. It is so fantastic, so impossible, that if it were not corroborated by the actual facts, we would not believe it. As a result of this confession, we arrested Dr. Albert Johnson and will charge him with over one hundred and thirty murders. Have you anything to say, Dr. Johnson?"

But that man, realizing that there was no hope, had placed several drops of a deadly poison on his tongue. For this reason, he neither tried to defend himself, nor was he ever punished for his crime. After the excitement caused by his death had passed over, President Jacob Hubler resumed the thread of his talk.

"Thus, we come to the end of the two great faculties, one of which died of old age and the other through the hatred of an insane man. Back of all of our trouble have been jealousy and hatred, two of the greatest curses known to mankind. Working in harmony with each other, we might have done much, might have inspired a younger generation and gracefully made way for their advancement to fill our places. That will have to be done now. I asked the presidents of our sister colleges to be present, because I wanted them to realize what unwise and unchecked competition would result in. Such emotions should have no place in the intellectual life, and are certainly out of place in the curriculum of a university. I want you all to live at peace, to be generous with each other. Each of you has a definite share in the work of educating our youth. Perform that work in loving kindness.

"And, now, I have a peculiar statement to make to you. My family is all dead. For years I have been tired of this stationary life. While my colleagues lived, we would be moved near each other and secure happiness from talking over old times, but most of them are dead, and those who are living are so crippled that it is sad to see them. I am taking advantage of an article of the agreement made years ago. We thought that we might form a faculty of *Eternal Professors,* but I am the only one left who is able to retain and express his intellectual processes. I gave orders this morning to Professor Chenenko that all the pumps be

stopped. My professors are now all dead. Perhaps in that sense, but only in that sense, can they be called eternal. I will now close my eyes, and smiling, ask the professor to stop my pump."

With streaming eyes, Professor Chenenko pressed the button. Life faded from the beautiful face of the last of the New York professors who had lived so many years in a state of bodiless perfection.

But his wishes were respected and so ended a destructive campaign for college supremacy.

THE END

Barton's Island

By Harl Vincent

(*Concluded from page* 413)

"Can you forgive me, Philip?" he asked beseechingly. "I have been wrong all these years. But I'll atone, never fear."

"Yes," replied Philip solemnly, "I forgive you, Carter."

Jerome Carter capered like a boy. He shooed the physicians from the room and almost hugged President Haven. When his eyes alighted on the gray-clad figure of Kirk Paulson, he shamefacedly extended his hand.

Kirk grasped it without hesitation and Carter beamed his pleasure. "Thank you, sir," he said. "You give me hope that those of the gray will forgive me also. And they shall never regret it. Things are to be different in our country from this time forth."

President Haven stared in amazement as the transformed Carter turned to him with a sudden remark. "Mr. President," he said, "do you think we could put an act through Congress within the next few days cancelling the debts of the foreign nations?"

"Why—why—I believe so," replied the President in wonder.

"Good," said Carter. "Let's get together on it at once. And I have many other things in mind. Now, please, all of you leave me. I wish to dress."

* * * * * * * * *

LATER in the evening, after the members of Carter's council had been restored to consciousness, Philip Barton addressed a huge meeting in the auditorium of the multitude in gray—the New York gathering place. The hall was jammed to the doors, and a full hour was needed to restore order after the thunderous applause was started that greeted the appearance of Philip and Kirk. Hidden by a screen on the platform sat Jerome Carter. At Kirk Paulson's side was the little figure of Aline Sarov. The applause from the central and western meeting places came through the loud speakers with volume equal to that of the local hall, and it required as much effort to silence the distant crowds as it took to quiet those in New York.

"Friends," spoke Philip when quiet was obtained, "I have great news for you. There is now in preparation a bill that will be introduced in Congress within the next few days. This bill will provide for the cancellation of the war debts of the foreign powers, and will thus permit of their rehabilitation. That is but the beginning. We have all hesitated in the past to admit that our great nation has been under the absolute dictatorship of Jerome Carter, though we have known and recognized it for years. And I am here to tell you of the radical change of heart of this great man. He has this night agreed to increase the monthly credit of all workers by twenty-five per cent. This is to take effect at once, and a further increase will follow as quickly as arrangements can be made. All corporation presidents have already agreed and the matter is definitely settled. Further reforms are to follow with all possible speed. The powers of the red police are to be curtailed and their numbers reduced by seventy per cent. Only those needed for traffic regulation and the like are to remain.

"Housing conditions will be investigated immediately and all of you will benefit greatly by improvements that are to be made in this respect. Educational institutions are to be opened to wearers of the gray, and new ones will be provided as rapidly as Mr. Carter and his associates can obtain material and recruit labor. All class legislation is to be repealed. The President has agreed to use his influence in conjunction with Carter's. A special election will be held as quickly as the machinery can be set in motion, and the votes of all may be cast without fear of retaliatory action by those of the purple or the red police. You may replace any government official you desire and may elect whomever you wish to office from this time henceforth. And now I have a final surprise for you."

A deathly stillness fell over the hall and the two distant meeting places as Philip advanced to the screen. And when he led forth the purple-clad figure of Jerome Carter, the resulting din eclipsed that which had greeted him and Kirk Paulson.

Philip seated himself beside Kirk and Aline as Carter advanced to the center of the platform and waited smilingly for the quiet that would permit him to speak.

"Wonderful, isn't it?" asked Philip.

"Marvelous," agreed Aline, without relinquishing her hold on the strong hand of Kirk. "But when do we leave again for Barton's Island?"

Philip laughed heartily at her remark as he watched Jerome Carter vainly striving to make his voice heard above the clamor of the emancipated workers.

And on the streets and through all public and private newsspeakers there spread the astounding news. There would be very little sleep that night in all North America, for already celebration was in progress, the like of which had never before swept the country.

In the executive mansion President and Mrs. Haven were happier than they had been in seven long years. Mona thrilled with love and pride at thought of the great accomplishment of her husband.

THE END

that it seemed to be, as Phil claimed it was, just "dead," so far as vibration or its ability to combine with other elements was concerned. This strange metal was only one of Phil's many discoveries, and I describe it only because it was used in his two-dimension experiments.

Philip Tulane was undoubtedly endowed with one of the greatest scientific brains that I ever knew. He could have made a name for himself in either chemistry or physics if he had been willing to accept some of his flattering offers from various universities. But he preferred to remain an instructor in mathematics at Bennett. And I am sure that Theda was the cause of his preference.

Theda Derioux was as good in her field as Phil was in his. She was interested in hypnotism and psychic phenomena. Not only had she studied and read widely along these lines, but she was born with strange mediumistic and hypnotic powers. Furthermore, she was gifted with the power of premonition. I don't know much about such matters, but Theda was a puzzle even to the psychologists. Whether it was due to a highly developed intuitional sense, or whether it was the "uprush of the subliminal" or some other power not yet understood, I do not know, but Theda did marvelous things in telepathy and mind control without—she declared—knowing how she did them. Outside of her mysterious powers, Theda was a typical specimen of vivacious, charming American girlhood. She got her rather unusual name from her German-French ancestry. She was a perfect Titian blonde and not at all the type usually associated with the so-called occult sciences.

I MUST confess that I was very much in love with Theda. But what chance had I, a bald bachelor of forty-five? I don't mind admitting my love for Theda at this late date, but at the time I kept it well concealed. Nobody could doubt that she and Philip Tulane were made for each other. They were not what you would call twin souls but rather complementary personalities —she with her psychic powers and he with his great scientific mind.

Theda's father, old Dr. Derioux, head of the Psychology Department, was a native Frenchman, and one of the most original characters on the campus. He knew his complexes and behaviourisms, and he had carried on a lot of valuable investigations in spiritualistic fields, with the aid of his daughter's peculiar powers. But, like his daughter, he managed to retain his charming personality, in spite of his great learning, and outside of his work hours he was so full of inconsistencies and unique sense of humor, that he was irresistible.

I doubt if Phil knew the first principles of courting a girl, assuming that he had such intentions. He did not seem to want to be alone with Theda, so he and I got into the habit of calling at the Derioux home at least one evening a week. The four of us had enough common individual interests to make our weekly sessions very enjoyable. We discussed all the sciences and even religion and the destiny of man and such things. True, the discussions of religion and metaphysics were rather in the form of a debate with Theda and the Doctor on one side and Phil and me, both rank materialists at that time, on the other.

Very clearly I remember the night when the idea of segregating the dimensions came up for discussion. The conversation had drifted around to the fourth dimension, a favorite theme with us, and each had a different opinion. As usual, the Doctor, much to Phil's annoyance, upheld the superiority of his own science over what he called the material sciences.

"The fourt' dimension," declared Dr. Derioux, "is not found in ze limited sciences of mat'ematics and physics. Dey must be content to deal wit' t'ree, while ze fourt' comes in my own realm of metaphysics. All matter have lengt', breadt', and t'ickness. Nossing functions in ze fourt' except ze subconscious mind. I will explain further if you weesh."

"You need not take the trouble on my account," rather testily spoke up Tulane. "I am very well content with three. I think it is rather foolish to seek for the fourth until we know something more about the three than we can now conceive of."

"I think so too," agreed Theda. "Everything else goes in threes. Why not dimensions? As for me, I don't believe in the existence of but three on this Earth. And have you ever thought of the expression of the Spiritualists, "the higher plane" where we are supposed to exist after death? Isn't it possible that unknowingly they have expressed the real truth about the next state of existence? What I mean is that the next existence is really a plane existence, an existence in two dimensions. I can believe that with one dimension dropped, we might continue to exist without any real mass. We would be like the actors on a moving picture screen except that we would retain our consciousness. We would be free from all the physical discomforts that go along with a three dimensional existence."

"A very nice play on words, ma cherie," the old Doctor replied in an indulgent manner, "but perfectly absurd from eizer ze viewpoint of physics or philosophy. I have heard ze claim zat a moving picture or a shadow on ze floor were true examples of a plane. But zat is false. Ze objects on ze screen or ze shadow are non-existent in reality and our impression of them is simply formed by the different intensities of light which striking ze retina of ze eye stimulate ze nerve endings so zat dey transmit a message to ze brain which forms a mental image which says: "Moving picture of John Barrymore making love," or "shadow on ze floor."

"That is very good metaphysics," smilingly replied Tulane, but it leads directly to the theory of the idealists, who claim that nothing exists outside of the mind. I am not quite ready to agree that all matter is the creation of the imagination. For the sake of Thorndyke and me, who are mere materialists, let us please confine our discussion of dimensions to the mathematical or physical viewpoint."

"In zat way," objected the Doctor, "you will hav ze advantage of ze argument. But you are my guests; I will agree to ze terms."

"I think Theda deserves more credit than you give her for her 'play on words.'" Tulane went on. "I think that investigations of the possibilities of two dimensions hold more promise than of four. For example the oft discussed possibility of travel through space or into a closed box by means of a little jump in the direction of the fourth dimension. I have investigated most of the theories of the fourth dimension and

have come to the conclusion that, if it exists at all, it may be defined by the word *position;* length, breadth, and thickness—and position being all the necessary qualifications for existence. And that being the case, four dimensional objects are in a sense stationary."

I WAS a firm believer in the Einstein theories and wanted to remind Tulane that position was only relative. But I sensed that he had something else on his mind, so I did not interrupt.

"Now if I wanted to traverse great distances of space or get inside of a closed box without raising the lid," continued Tulane, "rather than seek to use an extra dimension I would discard one of the three that I am now encumbered with."

"But den you would be nossing," exclaimed the Doctor.

"Perhaps so," agreed Phil, "but assuming that I possessed the means of dropping one of my dimensions and becoming a creature having length and breadth but no thickness, I could pass through any known substance with one exception without meeting with any resistance so long as the movement was confined to my own plane. Furthermore, not having any mass, I would not be influenced by gravity or friction. Once given a start I could travel to Venus without applying any additional power on the way. I could penetrate to the center of the earth and find out what it is like. Ah, the possibilities of a two dimensional object are almost unlimited. Why seek for four?"

"Why indeed?" snorted the Doctor. "You might as well seek for four as for two. As long as you confine your thoughts to physical matter and leave out the psychic side, you will have to be content wit' t'ree—no more—no less. But you have aroused my curiosity. You mention a substance that not even your all-powerful plane could penetrate."

Tulane was aroused by the old man's sarcasm and he replied with some spirit:

"I wish to amend my statement. There are *two* substances that are impenetrable by any known means. One is the brain of a psychologist, and the other is the heretofore useless substance that Thorndyke has insisted on calling tulanium."

The situation between the physicist and the psychologist was becoming rather critical. But Theda saved the day by saying:

"You two old fossils cut out the sarcasm and explain, Phil, what you mean by 'heretofore useless'? You seem to insinuate that you have found a use for tulanium. And I have a feeling that it has something to do with a scheme of yours for getting into the two dimensional state so that you can go sailing off to Venus or down into the center of the earth like traveling on a magic carpet. If that is so, I want passage reserved for me on the very first trip."

"Your intuition is almost true," said Tulane. "I don't have a scheme exactly; only part of one. I am really working on a lead that I accidentally came upon while experimenting with X-rays and infra-red and ultra-violet rays. If you three will promise not to betray my secret, I will keep you posted on the progress of my invention of a 'Dimension Segregator.'"

Theda was enthusiastic. I was interested. The old doctor was skeptical. But we all promised to keep the secret, and Phil continued to explain his scheme for projecting himself into the two-dimensional existence, in case he succeeded in perfecting his Segregator.

"If I can perfect this ray that I am working on, it will enable me to segregate one of the dimensions from the other two. Two of the dimensions can be projected on a plane surface, leaving the third behind. Then, by means of a little shove, this projection can be slid off—let us call it a screen—edgewise. Tulanium will, I believe be the substance to give the shove. As it is an *absolute solid,* it will probably be impenetrable, even by an object having no thickness. Once on its way, this true plane, having no gravity pull and meeting with no resistance, will continue on in a straight line through eternity unless means can be found for guiding it back to the screen.

"My invention is still in the embryonic stage, of course, but later I hope I will be able to project myself on a tour of exploration into regions as yet not visited by man."

"But Phil," objected Theda, "how will you ever get back if nothing can stop your outward journey but a barrier of tulanium?"

"Don't worry about that. I have not gone yet, nor do I intend to go until I find means of dropping one of my dimensions. Not even then, unless I can feel reasonably assured of a safe return."

The hour was growing late. So we disbanded for the night after Theda had been promised a hand in the building and operating of the Dimension Segregator. The Doctor was still skeptical. And so was I, though I had great faith in Phil's powers to invent strange machines.

DURING the next few weeks Phil spent all his spare time in the development of his mysterious ray. He finally came to me with the news that it was a success and that it was ready to be installed in a projecting machine. And he wanted me to help in the building of this machine. He explained that what he wanted was a simple housing for the ray tube, light-proof on all sides, except for the opening through which the ray was to be shot. There must be lenses to concentrate the rays on the desired spot and an electrical connection for regulating the light necessary for the functioning of the ray—there must be focusing arrangements, etc. It was to be on the order of a moving picture projector, but it would be of no use without knowledge of the secret of the segregating ray.

This secret remained with Phil. I only knew what I gathered from chance remarks of his.

"It is a combination of rays from radium and light rays of a higher frequency than ultra-violet rays that are separated from the spectrum by means of prisms in the tube," he said. "It resembles in some respects the X-ray. But it has other properties. The radium rays tend to disintegrate matter. But the other rays modify this tendency so that instead of being disintegrated, an object in the field of the combined rays simply has its dimensions separated or segregated without in any way suffering permanent disintegration."

This was all as clear as mud to me. Perhaps someone who reads this will know enough about such matters to enable him to discover the secret of the segregating ray.

I built the housing for him, and we took it into the dark room for the installation of the ray and the finishing touches. Tulane assured me that if a particle of light reached the tube, "the dimensions would be shot out of everything that the rays came in contact with." He had made it in the dark, and we assembled the apparatus in the dark, working by touch alone. The presence of the radium made this a ticklish operation.

We finally got the machine completed, however, and set it up in a long room over Phil's laboratory. It was placed at one end of the room with the screen at the other, and in between was placed a platform on which objects to be projected were to be placed. The screen was made of a dense alloy of Phil's manufacture. It had been compressed and polished until it was, I believe, the nearest approach to a true plane surface that has ever been achieved. Of course, if examined under a powerful microscope, it would have shown irregularities of surface. Tulane was doubtful about the screen, but later it proved its ability to serve as a plane surface even though it was not strictly one. It was about seven feet square.

The platform and the focus of the ray had to be adjusted so that the field of the beam barely cleared the surface of the platform and covered almost the entire surface of the screen. At the first demonstration, which I witnessed, I found out why this was. Phil later confessed to me that he slyly tested out the machine alone, so as not to risk the chance of being ridiculed by Dr. Derioux in case it proved to be a failure.

AT the first public demonstration, Theda, the Doctor, Tulane, and I were present. We experimented with inanimate objects only this time.

Tulane operated the projector and explained as he proceeded:

"I will now place this tin can on the platform, turn the current on, and push forward the lever releasing the energy of the ray tube. You perceive the projection of the can on the screen while the can itself has completely vanished. What has really happened is that the peculiar energy from the segregating rays has separated two of the dimensions from the third. These two are stopped by the screen while the third remains on the platform."

"Humph!" snorted the Doctor, "dere is nothing on ze platform."

"Just a minute, Doctor," calmly replied Tulane. "The mere fact that there is no light received on the retina of your eye, which creates an impression on your brain, which says: 'tin can on the platform,' does not necessarily mean that there is nothing there. I will prove to you that there is something there; in fact, the greater part of the tin can remains with the single dimension.

"I will now reverse the lever which releases the effect of the ray on the tin can. You see, the two dimensions have returned."

It was indeed true. The can was removed, and one by one and several at a time, other objects were put through the same process.

"But what is ze benefit of all zis?" demanded the Doctor. "I do not believe it is a t'ing but some of T'eda's sleight-of-hand or a simple exhibition of hypnotism."

Ignoring the skepticism of Dr. Derioux, Phil continued:

"The most valuable discovery I have made so far is the answer to the question I have been asking myself: What happens to the weight of the three dimensional objects when the dimensions are separated? I reasoned that a two dimensional object could have no weight, being without thickness. And I also reasoned that a one-dimensional object could have no weight. Multiply nothing by nothing and you get nothing. Then where does the weight come from? I was wrong about a one-dimensional object being without weight. I have found that the weight—the mass—the property of being affected by the pull of gravity, is inseparably bound up with one of the dimensions. Which one I don't know, for up to the present time no means has been known of distinguishing between length, breadth and thickness, except the arbitrary custom of calling the longest dimension the 'length,' the next longest, the 'breadth,' and the shortest, the 'thickness.'

"What I do know is that the dimension that remains behind when the other two are projected, retains the attraction for other matter which is responsible for the pull of gravity. This dimension which is linked up with mass I shall hereafter call the *third*, and I hope in my future experiments to determine which properties are linked up with the other two. I shall then give them distinguishing names."

A cube of wood was then undergoing projection.

"You can learn for yourselves that the weight of this cube of wood remains on the platform, even though it is invisible. Not only that, you can actually feel the third dimension with your hands."

TULANE pulled the lever into "neutral." The image remained on the screen. The block was still invisible. But the power of the rays was prevented from any further projection of objects which came into their field. One by one we felt the third dimension of the block and even lifted it between our hands. It appeared to retain the normal weight. It was a strange experience. You could pass your hand through the spot where the cube had been in a vertical direction or from side to side and encounter nothing. But when you brought your hands together in the direction of the projection, when they were about as far apart as the thickness of the cube, they would come to a stop. And by pressing your hands against the cube and lifting, you could actually raise the block or rather the third dimension of it, and feel the weight!! It is not much wonder that people thought me insane when I related these experiences. Yet, it was actual fact.

We all moved away from the platform, and Phil pulled the lever into "reverse." And we got another surprise. Instead of the cube, we now saw a most peculiar form. It would have to be called a cube, but there was not a right angle in it. It looked like the attempt of a lunatic to form a cube. Even Phil showed a look of blank amazement. Then he laughed.

"Now you see some of the possibilities of my machine," he said turning to Dr. Derioux, "I shall produce an entirely new set of geometrical figures, and perhaps develop a new school of futurist sculpture by subjecting old-style statuary to this process."

"But what in the world happened?" asked Theda.

"I will let you figure that out for yourself," enigmatically replied Phil.

I guessed what had happened but I don't believe Theda or the Doctor did. Phil placed the new geometrical form on a shelf and placed a little plaster bust of Shakespeare on the platform and turned on the ray. Dr. Derioux must have had a curiosity to feel the "third dimension of Shakespeare." He made a move toward the platform and reached toward the position of the invisible bust. Tulane hastily jerked the switch into neutral, just as the hand of Dr. Derioux had entered the field of the ray. The image of the hand appeared on the screen beside that of the bust, at one extreme edge of the screen.

The Doctor looked silly and hastily put his arm behind his back. But Theda made him withdraw. And surely enough his hand seemed neatly severed at the wrist. There was no blood, and he declared he felt no pain. Theda and I were filled with consternation, and I thought Phil's bit of wit was quite out of order.

Another possibility of my machine," he said, "painless surgery without anaesthetics."

He was evidently perfectly confident of his ability to restore the hand, but at the next turn of events he was the most disconcerted person in the group. At this very instant the Midnight Express passed on the track not a hundred yards from the building. The whole room shook with the vibration and we saw the projection of Dr. Derioux's hand tremble slightly on the screen and slowly float off the edge and disappear.

"Oh!" wailed Theda, "it's gone out into space, and it will keep right on through eternity unless it meets up with a barrier of tulanium somewhere."

"Which is quite improbable," calmly remarked the Doctor.

Phil was speechless. Absent-mindedly he appeared to give the third dimension of the Shakespeare cast a little twist and then pulled the lever re-aggregating the dimensions. What appeared was indeed a wildly futuristic-looking piece of sculpture. Still apparently much disturbed, Phil placed it on the shelf and then found his voice to declare:

"The wandering away of the two dimensions of your hand was due to my carelessness in not surrounding the screen with a rim of tulanium, as I intended to do before performing any experiments. It will be necessary for me to project myself into the two-dimensional existence in order to restore your hand. To-morrow night I shall make the attempt, if it costs me my life."

"Nonsense," shouted the Doctor. "You will do nossing of the sort. I have enjoy ze séance very much indeed. I t'ink T'eda and I had better be going as it is late." Evidently he still thought he was the victim of some sleight-of-hand trick performed by Theda and Tulane.

I REMAINED with Phil after the others had left. He was evidently much disturbed about the Doctor's hand.

"I haven't the slightest idea of how to proceed to get it back," he told me. "It was simply criminal negligence on my part to have delayed surrounding the screen with tulanium. I intended to do that before I projected any objects of value whose return to the three-dimensional state was imperative. I must do some thinking in order to figure out a way to project myself with at least a 50-50 chance of returning."

"Surely," I protested, "you are not serious in your determination to allow your dimensions to be segregated and sent wandering in space. The loss of a hand is a small matter compared to the risk of losing one of the world's most able scientists."

"Thanks for the compliment," he replied. "I don't intend to do anything rash. I promise you that I will remain in possession of all my dimensions until I experiment further and find a way of controlling the wanderings of the planes in space, so that they can be brought back to the screen. But it has been my intention from the first to use the segregator for the purpose of exploring space and the interior of the earth."

"But," I protested, "even if you can enter the two-dimensional state and wander off and return, you have no reason to believe that you will retain the faculties of perception without which your explorations would be valueless."

"Yes, I do have reason to believe it. I have a theory that, since the property of mass is linked up with the third dimension, the other properties are linked up with the other two. I have made a guess that sensitiveness to outside stimulations is attached to one of the dimensions, and that consciousness and the ability to think are associated with the other. I believe that I will retain full possession of my powers of observation and understanding."

"But even if you do," I argued, "what you see will be only a sort of cross section of what you pass through and of very doubtful value to science."

"Of course," he admitted, "I don't know exactly what will happen. But I have hopes that I will at least be receptive to the light rays that are perpendicular to my plane. But we will test out my theories when we have found means of directing our movements while in the plane existence. I want you to help me to-morrow afternoon to put a rim of tulanium around the screen. We will at least prevent anything else slipping off out of our control."

I later learned about the Doctor's behaviour in regard to his hand. He insisted that he was the victim of some prank, some hallucination brought about by Theda's hypnotic powers. But finding that his hand did not return with the dawn next morning, he had become alarmed and had gone to the hospital and called for the head surgeon, a friend of his.

"I desire you to examine my hand," he said, "it feels rather peculiar. It may be necessaire to be amputated."

I can picture the astonishment of the surgeon as he exclaimed:

"Why man you must be joking or crazy!! It is already amputated, and a very neat job it is. How in the world did it happen?"

"Ah, *M'sieur le Doctaire,* you jest with me. The hand is not gone. It is merely invisible. I will permit you to feel it. No, not that dimension, but in a transverse direction—dere, zat is ze way."

The surgeon was dumbfounded, and Dr. Derioux was thoroughly enjoying this experiment in psychology in a new field. He said:

"Ze case den is beyond ze scope of your branch of

science? I will confess. Ze hand was removed by a new method of painless surgery wit'out ze use of anast'etics. If you can do nothing for me I will have it restored by the same means by which it was dimensionally dissociated."

"I-I th-think we both must be crazy or drunk," stammered the surgeon. "But I can at least have the stub dressed to prevent infection and to hasten healing."

"*Non,* it will not be necessaire. But please do not mention this little visit to anyone until I have consulted further with ze painless surgeon who has charge of ze case."

"You need not worry about that. I think too much of my reputation for coolheadedness to let anyone know that I have been made the victim of such a delusion."

Phil and I worked on the projecting apparatus all afternoon. We surrounded the screen on three sides with a slight rim of tulanium, and on the fourth side arranged another rim of the same material which could be removed at will by a lever. We also arranged a lever attachment to give the screen a slight jar—"to slide the projection off the screen"—Phil explained. We also substituted a new circular platform, which could be rotated, and marked it off into degrees so that the amount of rotation could be determined.

"Now if I can have a conference with Theda," said Tulane, "I think I will be ready to step off into the two-dimensional existence and return. I think I can make the outward trip, but I will have to depend on Theda to bring me back."

THE second demonstration was even more amazing than the first. The same four were present as before, but Tulane had brought along several rabbits and guinea pigs, and Theda was accompanied by her pet fox-terrier, Gyp. This Gyp was a noted character on the campus. Besides being trained to do several tricks, he was rather famous on account of being the favorite subject for Theda's animal hypnotic experiments. Another distinction was his unusual coloring. He was pure white except for his right front foot, which was black; his right eye was brown, while his left was a pale green.

Tulane assumed his class-room manner and commenced his explanation of the program for the night:

"This evening we are going to experiment with the projection into two-dimensional existence of animate objects with and without psychic control. First guinea pigs and rabbits, then dogs; and if we find that these animals can be sent wandering in the flat and brought safely back to the three dimensional form, we will continue the experiments with the species *Homo-Sapiens Tulanii.* First a guinea pig, Thorndyke, if you please."

The guinea pig was placed in position and projected. The movable rim of tulanium was adjusted so that one edge of the screen was open. The lever which was to jar the screen was operated. The image of the guinea pig moved aimlessly back and forth across the screen, came in contact with the fixed rim of tulanium and was immediately pushed back across the screen and off the edge.

"Where do you suppose he has gone?" inquired Theda.

"Oh, he has probably gone to seek for the Doctor's hand," lightly replied Tulane.

"Phil, I think you are cruel. I shall never forgive you unless the hand is restored."

"I was only jesting," explained Tulane. "The guinea pig is gone from us forever unless some one goes after him or he happens to drift back accidentally. I have no means of knowing whether the projections keep on moving in a straight line or whether they move around in all directions in their own plane. Thorndyke, please remove the third dimension of the guinea pig and place it on the shelf with the other specimens."

I had no sooner obeyed his command than the image of the guinea pig came drifting back upon the screen. Tulane hastily jerked the lever into reverse and the two dimensions of the guinea pig came back to the platform, but being unable to find the third where it had been left, had to be content to remain in the flat. You may think I am a liar—but this is one of the miracles performed by the Segregator for which the evidence is preserved. When Tulane pulled the reverse lever, there appeared on the platform what looked like a tissue paper cut-out picture of a guinea pig standing upright. I attempted to pick it up edgewise between my hands but it passed right through both hands—proving one of Phil's theories that a two-dimensional object could penetrate any known substance without resistance. I succeeded in picking it up by pressing both hands firmly together against its sides, but still it had a tendency to slide between my hands. Moving it about was as hard as trying to carry around a drop of mercury on a slab of glass. But I finally managed it, and next day Phil and I mounted it on a slab of aluminum and surrounded it with an outline of tulanium. He presented it to me, and it is still in existence.

BUT to return to the experiments. Several more guinea pigs and rabbits were projected, but as none of them returned to the screen after being slid off, we concluded that the return of the first one was a mere accident.

Tulane turned to the Doctor and said:

"Dr. Derioux, I regret to have to confess that the 'material science' of physics is unable to solve the problem of controlling the movements of two dimensional objects. I shall, therefore, have to invade your field and try psychic control.

"Theda, if you will prepare the subject, we will see what can be done."

Theda placed one of the remaining rabbits on the platform, and after stroking it gently and talking to it in a soothing tone, drew back and said she believed it was under her control. Tulane pushed the lever and the projection of the rabbit appeared on the screen.

"Now, Theda, see what you can do in motivating the rabbit," he whispered.

Theda seemed to concentrate on the rabbit. She did not have to speak to her subjects. She used purely mental control. The rabbit circled the screen. It did not just slide around. It hopped!! It came to a stop for a moment and then went hopping rapidly off the screen. Presently it returned in the same way. But to make sure, Theda sent it off and on a number of times and also made it stand on its hind legs and wiggle its ears. She then announced that she was satisfied

with her control, and when the reverse lever was pulled, the rabbit was again on the platform, apparently asleep. Theda clapped her hands, and he jumped down of his own accord and went hopping off to the corner of the room, apparently none the worse for his experience.

"Fine work, Theda," exclaimed Phil. "I think it will be perfectly safe to venture into the two-dimensional existence under your control.

"By the way, Dr. Derioux, you might ask the rabbit if he saw anything of your hand while he was gone."

Dr. Derioux ignored Phil's inanity. He was so highly elated over the fact that hypnotism had been necessary for the traversing of two-dimensional space that he could afford a little indulgence.

"Now," said Phil, "shall Gyp and I toss a coin to see which is to have the privilege of the next trip? Theda, I will leave it up to you. If you think Gyp is too valuable to risk, I will excuse him and go myself."

Theda looked hurt and replied very seriously:

"Gyp at least has sense enough to know how much he is appreciated. If I was not sure I could bring him back I would let you go. But I want him to have the experience, so he'll be next."

Phil turned very red under Theda's thrust, but he assumed a nonchalant air and requested Theda to prepare the subject. Gyp was easily hypnotized and was made to perform his tricks on the screen and go off and return several times.

"I want to lift his third dimension," requested Theda, "and see if it weighs as much as it ought to."

So the lever was put in neutral, and Theda, evidently with effort, raised the third dimension of Gyp and declared that he was fully as heavy as ever.

Tulane reversed the power, and Dr. Derioux gave one glance at the platform and gasped:

"Mon Dieu! Tulane, what have you done to T'eda's dog? He looks like he might have picked up another dimension while he was gone!"

HE DID look that way for a fact, for instead of a normal fox-terrier on the platform, there was a strange object that had but slight resemblance to a dog—and yet it was recognizable as such. It resembled more than anything else an "Impression of a Dog" as it might be given by one of the extreme cubist artists, whose works I have often wondered at. Tulane was amused, but Theda was filled with consternation.

"Poor little Gyp!" she cried. "He is ruined. Oh, Phil, what can we do?"

"I think," declared Phil, "that he is quite an improvement. However, if you don't like him, I dare say that you could sell him to a 'zoo' for a fortune, as a new species of animal."

But noticing that Theda was on the point of tears, he hastened to reassure her:

"Don't be alarmed. You shall have your dog back just as he was before. Thorndyke, will you please manipulate the lever while I revolve the platform?"

I projected the dog on the screen again, and this time it was the distorted image that appeared. Phil revolved the platform a few degrees and the normal Gyp was again on the screen. But unable to resist the temptation to have some fun, he continued to revolve the platform. The screen image became more and more distorted until a ninety degree revolution had been made. At that point the image disappeared momentarily to reappear at once. It became less distorted as the revolution continued, until the platform had been turned 180 degrees. At that point the image appeared normal, and I pulled the reverse.

Gyp was again on the platform. Theda joyfully sprang on him, frightening him out of his spell. Snatching him up in her arms, she began fondling him and examining him to see if he was all right. Being satisfied, she turned to Phil and said:

"Now aren't you glad that I let Gyp go instead of you? How would you like to be twisted all out of shape as he was?"

"I would be only too glad to undergo the experience if I could be rewarded on my restoration with as much affection as you are bestowing on Gyp."

It was Theda's turn to blush now. She looked confused and said to Tulane:

"Stop being silly and tell us what made him look so funny the first time."

Instead of explaining, Phil suggested that Theda examine the dog's feet and eyes. Theda's two blue orbs opened wide with amazement as she hastily gave Gyp another inspection and saw that it was now his left foot that was black instead of his right, and his brown and green eyes had reversed positions!

Tulane explained what had happened as follows:

"The same thing happened to Gyp that happened to the cube in the first demonstration. When Theda picked up his third dimension, she set it back down at a different angle from its original position. Then, when we brought his dimensions together again, one of them was at an odd angle to the other two, producing the bizarre futurist looking animal that we saw. All that was necessary to restore the normal angle of the dimensions was to project him again and revolve the

. . . for instead of a normal fox-terrier on the platform, there was a strange object that had but slight resemblance to a dog.

third dimension to its original position. But for the sake of experiment I continued to revolve the platform producing the peculiar kaleidoscopic effect you witnessed on the screen. You noticed that at the 90 degree point the image disappeared. That phenomenon needs further investigation. I only know that two of the dimensions coincided at that point. Some very interesting possibilities to that.

"The maximum distortion was reached when the third dimension was at a 45 degree angle to the other two, while, when it was completely reversed, there was no distortion. You can see that Gyp is exactly as he was before, except that his right and left sides are transposed like the image in a mirror. I don't think it will cause him any inconvenience unless it makes him left-handed or makes him see things reversed—mirror vision I believe the psychologists call it. However, if Theda wishes it, I can easily remedy that."

"No," Theda decided. "I think it will be fun to have him this way for a while. If it causes him any inconvenience we can re-reverse him later."

"Well, so much for that," said Tulane. "The experiments so far have been only the preliminaries to the most interesting and valuable phase of dimension segregation—the investigation of hitherto unexplored regions. I am now ready to make the venture in person."

"Mon Dieu!" exclaimed the Doctor, glancing at his watch, "it is 1:30 A. M. We must postpone ze grande adventure until anuzzer occasion."

"But," objected Phil, "I am anxious to return the missing dimension of your hand if it can possibly be found."

"Dere is no hurry about zat," affirmed the Doctor. "I have been able to get along very nicely without it. I have disprove ze t'eory zat a Frenchman would be dumb if deprived of ze use of his hands."

We said good night, but for me there was little rest that night. In my dreams hideous creatures appeared with their dimensions all tangled up, and I chased elusive guinea pigs-in-the-flat who slipped through my fingers and passed at will through my body. And when the day finally came it was some time before my mind was able to discriminate between what I had really seen the night before and what had been part of my nightmares.

* * *

WE all needed a rest after the great nervous strain of the two previous nights, so we unanimously agreed to postpone the great adventure until Saturday night following.

On that night we met promptly at 8 o'clock, and Tulane took charge of the program and proceeded as if lecturing to one of his classes:

"There are," he said, "many interesting possibilities of investigation with our segregating ray without the necessity of projecting myself into two-dimensional existence. For instance, by simply repeating the operation, we can reduce an object to one dimension and find out the properties of the first, second, and third. And by going another step we can even do away with dimension altogether. Of course, that is as yet inconceivable. By another method of procedure, we should be able to establish the existence or non-existence of the famous 'fourth dimension.' A new science of solid geometry can be based on the forms produced by altering the angle of incidence of the dimensions, just as we did with Gyp, with Shakespeare and with the wooden cube. There are many other fields of investigation. But that can come later. I am growing impatient to be off on the 'grande adventure,' and if Theda is ready to cast a spell on me and use her 'personal magnetism' to guide me and bring me back again, I will mount the platform.

"I have not the slightest doubt of my safe return, but realizing the value to science of my chance discovery, the segregating ray, I have carefully written down the formulæ and directions for its manufacture. I have also written down some of my theories as well as a complete report of what we have accomplished. I intend to put the papers in a safer place later, but at present they are in the upper left-hand drawer of my office desk. Thorndyke, I will give you the key. You will also find a properly executed document transferring to you three equal shares in the ownership of the invention and all profits that may result from its exploitation in case of my demise in either the three- or the two-dimensional existence."

Then to Theda he said: "All right, hypnotizer, do your act."

But she was evidently much affected by Phil's directions about what was to be done in case of his failure to return, and she absolutely refused to have anything to do with projection. Phil argued and pleaded and finally declared his intention of making the venture without psychic control. Then she grew more alarmed than ever and stated simply:

"I am going with you."

The old Doctor snorted and fumed. "Nonsense! Impractical, absurd, ridiculous!" he shouted. "How in ze world can you use hypnotic power to guide Phil while you are yourself in ze two dimension? Explain me zat if you can."

Theda smiled calmly and said: "I don't know how I know it. But I do know that I can guide Phil much better if I go along than if I remain behind."

"Nevaire have I seen such a child!" complained the Doctor. "You are ze despair of my existence. Your mind is incapable of being psycho-analyzed. Whenever you say you know wit'out knowing how you know, I have learned from long experience to submit to your inanities. I will say no more. I t'ink perhaps you belong more in ze two dimension dan in de t'ree." The old man calmed down and his voice took on a pathetic note of tenderness as he continued: "But T'eda, you must employ ze extremity of caution. Your old fazzer could not live if anyzing happened to you."

THERE were tears in Theda's eyes as she assured her fond father that he need have no fears. But I felt strangely sick at heart at the all too plain evidence that Theda would rather spend eternity in the two-dimensional state with Tulane than risk being permanently separated from him.

Theda hynotized Phil and appeared to go into a partial trance herself. I manipulated the levers and they disappeared. Their projections still in the hypnotic state appeared on the screen and presently appeared to awake and arise. Waving goodby they slipped off the screen. From the time they left until

their return Dr. Derioux remained in a state of mental agitation. They soon reappeared on the screen but were gone again before I could reverse the power.

The minutes grew into hours, and I felt ready for a mental collapse under the strain of watching the screen and listening to Dr. Derioux's ravings. He was almost a maniac before the image of Theda and Phil appeared again on the screen and assumed a stationary position. I jerked the lever, and there they were back on the platform, apparently fast asleep. Theda came out of the trance without assistance and awoke Phil by a gentle pat. Without waiting to be questioned, she began at once, with eyes shining, to relate her experiences.

"Oh, it was wonderful!" she declared. "I am more than ever convinced that the higher plane of existence after this earthly life is in a two-dimensional world. I can't explain how it feels. But I seemed to be wandering around like a disembodied spirit without weight or any feeling of solidity. I had no trouble in guiding Phil and myself. I simply willed to be at a certain place, and lo and behold, I was there."

"But where did you go? And what did you see?" I interrupted to inquire.

"Yes, where *did* we go? And what did we see?" answered Phil, evidently in a very ill humor. "We went to that platform, and we saw nothing. You three bright ones must think I am a greater simpleton than I really am, not to be able to figure out that all that happened was that Theda put me to sleep and kept me asleep while you three planned out your little comedy. Theda, I did not think you were capable of practicing such deception for the mere sake of preventing me from risking the very slight chance of not being able to return. But if you will not allow me to make the trip into two-dimensional existence under your control, I will get some other assistants and go on my own hook."

Theda was nonplussed, and her enthusiasm over her recent experience died a sudden death. But for only an instant. With a soft laugh she declared:

"It is I who am the simpleton. Why of course your conscious mind would retain no memory of the experiences you went through while in the hypnotic condition. The only way you can find out what you saw is for me to hypnotize you again and make your subconscious mind dictate while some one writes."

"A lot of good it will do me," retorted Phil, "to have some one else tell me what I saw and experienced. It won't do anyone any good to enter the two-dimension existence, except for the purpose of making technical observations of a scientific nature with his conscious mind."

"Oh, don't be disheartened," pleaded Theda. "Perhaps it will be possible to control your movements while you are in a semi-hypnotized condition so that you will be able to remember what you see."

But Phil was only partially convinced that he had not been duped, and he was in rather bad humor when we parted for the night.

The next afternoon Theda actually did hypnotize Phil and she made him tell all he had seen and felt while he was in the two-dimensional state. Dr. Derioux copied it all down, and it was filed with the other papers in the upper left-hand drawer of Phil's desk. Unfortunately I was not present at the time and never had an opportunity of seeing the paper. All I ever learned about what actually took place in the two-dimensional world was gathered from the few remarks that Theda made.

THE fourth demonstration was a brilliant success, although it was a nerve-racking experience for me and the Doctor. Theda partially hypnotized Phil and found that he could be controlled and still have a perfect memory of what happened to him. She insisted on going with him again. So in their trance-like state they were projected and left the screen. In about ten minutes they reappeared on the screen, and Theda held what appeared to be a human hand.

"Ah!" exclaimed the Doctor, "ze prodigal has returned. It is my long lost hand which now is found. Pull ze reverse lever, Meestaire T'orndyke, zat it may be restored so dat I can fall upon his neck and embrace heem."

I was about to comply, but on second thought realized that I had better think what should be done in this case. It was a brain-twister. If Theda and Phil would withdraw from the screen and leave the hand, I might seat the Doctor on the platform and bring back his hand. But suppose the third dimension of his hand was not in the same position as it had been at the time of the accidental projection. Then his hand would be like Gyp—distorted. In that case I could project the Doctor and orientate the platform. But in getting his hand back to normal, all the rest of his body would become distorted.

I explained the problem to Dr. Derioux, and after much argument we were about to give it up. Then the greatest marvel of all the marvelous events took place. Theda and Phil on the screen were apparently laughing at our dilemma. I was much annoyed and was about to bring them back to solve the problem for us. Phil seemed to read my mind and held up a restraining hand, and began to engage in a sort of pantomime for my benefit. He pointed to Dr. Derioux and to the platform. The Doctor mounted the platform, taking care to get on the extreme edge so as not to disturb the third dimensions of Theda and Phil. I was about to project him, when Phil shook his head and pointed to Theda.

Then, would you believe it, Theda, in her two-dimensional form, looked directly at the Doctor with a peculiar look of concentration in her eyes, and he promptly became unconscious. She actually hypnotized him from the two-dimensional world. This proved that full powers of mind were retained and contact kept with the three-dimensional world.

I shot him on the screen, and then had the pleasure of seeing a pretty little screen play. The Doctor stood at attention while Theda very formally approached with the hand. He extended his wrist, and Theda attached the hand, testing it to see if it fitted. She then kissed him on both cheeks. The Doctor saluted with the restored hand, and Phil approached and gave it a vigorous shake. They then seemed ready to be brought back, and I pulled the lever and brought them back and roused them out of their trances.

Dr. Derioux was delighted and jumped around feeling of his hand and making gestures with it, and repeating over and over that he must go and show it to the surgeon. And when I asked how it felt to be projected, he replied:

"I felt nossing. I simply went to sleep, and when I awoke, my hand which was lost had returned. Ah! let us kill ze fatted calf and have feasting and rejoicing! But I was about to forget. Mr. Tulane, where did you find heem—ze hand?"

"Oh, it hadn't wandered far," drily replied Phil. "I found it on the upper plane, trying, by means of the French language of gestures, to explain to a class of two-dimensional sophomores the difference between ego-ism and egotism."

"Ah, indeed?" retorted the Doctor. "I have no doubt zat ze mind of my sophomore class of psychology is of ze two dimension, what you call ze two-by-four. But as for ze mat'ematician and ze physicist—his mind is in ze one dimension. It have no breadth, no length. It is only in thickness of ze skull dat it is a grand success."

After we had laughed at the Doctor's wit, Phil and Theda declared their intention of making another trip of discovery. Phil had been able to observe for himself this time, and had made some revolutionary discoveries concerning the composition of the center of the earth. He declared that he retained all sensory powers and even acquired the ability to see into the dark interior of solid objects. And he also was able to remember what he saw and felt. Transportation from place to place and the passing of time were almost instantaneous, apparently, because they had been through the Earth and back in a few minutes. He even asserted that he could bring back objects, which of course would be in the two-dimensional form like the guinea pig. These cross-sections, though they could not be chemically analyzed, would be of value to science. As to where and how he had recovered the Doctor's hand he refused to say any more at present. He said that he was anxious to traverse the distance to Venus and probably investigate that alleged upper plane of Theda's. So he insisted upon being projected immediately.

We went through the usual procedure, and they were off. Dr. Derioux and I settled down to wait.

The minutes passed rapidly while we conjectured about the mysterious return of the hand. But the time began to drag as Theda and Tulane did not reappear on the screen. The Doctor became worried and looked at his watch every five minutes. It was the most miserable night I ever spent. My companion went to sleep in his chair about one A. M., and the dawn was breaking when I awoke with a start from a little nap to see Theda and Phil beckoning from the screen.

When they were brought back and the Doctor was awakened, he flew into a veritable rage.

"T'eda, whatever am I do do wit' you? You will yet cause my destruction. I am disgrace! I am mortify! Here you calmly return at daybreak after being out all night wiz a man who is not your husband. It is unconventional, it is scandalous! What would your *mamman* say if she were alive?"

"Father, don't be silly," Theda reasoned with the old man. "These things don't count in the two-dimensional world. Everything is beautiful and pure, and the physical side of our natures is left behind. Love is on a higher plane than it is in this world. And besides, Phil and I have been united in the two-dimensional world, and if you wish it, for the sake of propriety, we will be married in the three-dimensional world."

"You have been united in the two dimension? Magnificent! And I suppose the ceremony was performed by one of those Unitarian ministers who deny the t'ree dimensions of God? Yes? Well, it is ze only ceremony zat will be performed unless you proceed in ze American manner, without ze consent of ze parent."

"Dr. Derioux, I take this opportunity to request the honor of your daughter's hand in marriage," Phil interrupted very formally.

"I am surprise, I am amaze. I can not. She is my only one. Mr. Tulane, it is a great honor. But I must think. I am ze old fool! Ah, I have it. It is ze grande romance. Ze old man lose his right hand—he offer a great reward for its return. Ze young Knight come out of ze West. He sail out into ze unknown. At ze risk of his life he recovers ze hand and by his magic power restores it to ze t'ree dimension. Ze old man is filled wit' gratitude. He say: 'My son, as a reward for your brave deed I will give you ze hand of my only daughter.' It is done; you have my consent."

"And my congratulations," I interposed. And thus happily ended the fourth demonstration. Theda and Phil were quietly married that afternoon, and seriously declared their intention of spending their honeymoon in the two-dimensional world.

* * *

AFTER losing a whole night's sleep and witnessing a marriage on top of that, we were all rather unstrung. But Theda and Phil just wouldn't be denied one little trip into the two-dimensional world. So the next and final demonstration of the Segregator took place on the very next night, April 22nd, a date made memorable by the occurrence of the Great Bennett Earthquake and fire disaster.

"We won't be gone long," Phil promised. "We are thinking of settling as pioneers in the new world we have discovered, and we just want to pick out a spot for building the floor plan of our two-by-four cabin."

"Bettaire make it larger," laughed the Doctor, "so as to have room for ze little one-by-one or perhaps two-by-two Phils and T'edas that are sure to arrive."

Theda very solemnly remarked: "Phil, I don't think we had better go to-night. I am having one of my premonitions. I seem to have the feeling that something terrible is going to happen to-night. I feel as if the projection machine is going to be destroyed or something like that."

"I hope you are wrong," said Phil. "But anyhow, if anything is going to happen, I will feel safer in the two-dimensional state than in the three. Won't you?"

A strange look came into Theda's eyes, and I firmly believe that she knew at the time that she and Phil would never return to our world if they were projected into two-dimensional existence. But she made the choice. She merely said: "I am not afraid. We will go."

They were projected, and lingering on the screen only long enough to wave farewell, were off on their strange honeymoon, while Doctor and I tried to make ourselves comfortable. They had been gone scarce ten minutes when the windows began to rattle and the floor to tremble slightly under our feet. Gyp, who was present, growled uneasily.

"What train passes at dis hour?" nervously inquired the Doctor.

I glanced out of the window and replied: "There is no train. It must be a slight earth tremor."

"Let us hope dat it will be slight," said the Doctor. "I fear zat T'eda's premonition was correct. Her premonitions always are correct."

The second shock came, stronger than the first. The screen shook, and the platform slid a slight distance across the floor. The tremor died away, to be followed by the third—this time quite severe.

"Mon Dieu!" fairly shouted the Doctor. "What will happen if ze machine is demolished and T'eda away out in ze two dimension wit' no way of getting back. I should have forbidden dis mad adventure to-night. T'eda's premonitions never fail."

At this moment Theda appeared on the screen alone. There were tears in her eyes, and she was bidding us farewell. Dr. Derioux hastily pulled the reverse lever. But the platform had been disturbed, and the Theda that appeared, though recognizable and still beautiful, was dimensionally altered and distorted. Dr. Derioux pushed forward the lever and yelled out:

"Rotate ze platform!! Rotate ze platform to ze proper degree. Dere is no time to waste! !"

The earth trembling had ceased, and I took my time, hoping that Phil would reappear. I had just got Theda's image back to normal on the screen, when she glided off to her husband, waving us a last farewell. Then came the severest shock. Dr. Derioux was hurled to the floor, and the lights went off.

"All is lost," wailed the Doctor. But I hoped that was not true. The shock was weakening, and I hoped that I could get a light and some storage batteries to attach to the machine. I started feeling my way along. I had reached the hall when the floor seemed to rise about three feet and I felt myself falling through space. I had been thrown bodily down the stairway.

Stunned and bruised, I tried to collect my thoughts. I had a vague idea that there was some purpose that I had started to carry out. Oh, yes—the storage batteries. But no, it was too late for that now. The machine was probably a hopeless wreck. There was some other thought deep in my subliminal mind that was struggling for consciousness.

The smell of smoke brought me to my senses. Fire had broken out in the building. What was it that I must do? Oh, yes, the upper-left-hand drawer of Phil's desk. I must make a desperate effort to reach it and save the papers before everything was lost. I dragged myself along, and must have reached the outside of the desk, when some falling object hit me on the head. Consciousness left me.

* * *

I AWOKE with a throbbing pain in my head. And my first thought was for the papers. I made an attempt to crawl on toward the upper-left-hand drawer but was restrained by the strong arms of a Red-cross nurse who held me on the cot and said:

"You must lie still. Don't worry about the papers."

I settled back and tried to connect things. I saw that I was in what appeared to be an emergency hospital. Then I remembered the earthquake and fire, and I realized where I was and why I was there. Seeing the surgeon approaching, I rose up and asked him what had become of Dr. Derioux. He replied:

"I regret to say that he perished in the fire that destroyed most of the University buildings after the earthquake."

"And Theda and Phil—are they still in the second dimension?"

"Yes, they were lost, too." He looked at me queerly and turned to the nurse and said: "Better keep the patient quiet. He seems to be delirious still."

When the fever had gone and I was allowed to talk as much as I pleased, I found that there had been a severe earthquake that had demolished most of the University buildings. The shock, I learned, was followed by a fire which had totally destroyed, with the other buildings, Phil's laboratory office and the room where our demonstrations had been carried on. About a hundred lives were lost at Bennettsville, and the night watchman had betrayed the fact that Dr. Derioux and his daughter and Phil were in the laboratory building, and had not come out. This same watchman had discovered me lying unconscious just outside the door. He had been attracted by the furious barking of Gyp who had followed me out and refused to leave my side in spite of the rising heat from the burning building.

The old Doctor gone—Phil and Theda too! But somehow I felt that, though their third dimension had doubtless been destroyed, still their other two must be together and safe and happy. And the papers and formulæ and records were all burnt, and the machine was destroyed. It was up to me alone to acquaint the world of the wonders that Phil had performed and to seek to have the secret of the ray rediscovered.

I searched the ruins, but found nothing but a hopeless wreck of the projecting machine, the warped and melted screen with the rim of tulanium still intact—and the queer transformed bust of Shakespeare blackened and broken in two. Otherwise it was unharmed.

I told my story to many. But they only laughed at me or listened in an indulgent manner, that plainly showed that they thought me mentally unbalanced. I exhibited the flat guinea pig and called attention to the transposed eyes and feet of Gyp. But I convinced no one. The tales I told them were too marvelous to seem feasible. I tried to get the surgeon to tell what he knew about Dr. Derioux's hand, but he refused to discuss the matter. My friend, Dr. Fitzpatrick, the psychoanalyst, was the only one who listened seriously to my complete story. He admitted that he was at a loss to explain certain things, especially Gyp's eyes. But he almost convinced me that I had been hypnotized by Theda and was made to see things that did not exist.

"It was either that," he declared, "or the surgeon and the physicians are right in thinking that the blow on your head caused you to be afflicted with a peculiar obsession. It may be only temporary, but if I were you, I would refrain from discussing the subject of dimension segregation, because you are only convincing the world that you have had hallucinations and you are injuring your reputation for levelheadedness."

I could not have been deceived. No, the demonstrations were real. But, like Galileo, I had to renounce my theories at the beck of an unbelieving world in order to save myself. I worked secretly to discover the mysteries of the segregating rays. But I have not the brain of a Philip Tulane nor his knowledge of Physics.

After promising not to publish it during my life

time, I did finally get a signed statement from the surgeon describing his examination of the hand of Dr. Derioux, while it was in the one-dimensional state and after it was restored. This statement is on file with the records of the "Society for the Investigation of Curious Phenomena." In the museum of the same organization are the bust of Shakespeare "with the angle of incidence of the dimensions altered," and the two-dimensional guinea pig. This latter has aroused much speculation. It has been examined by numerous artists who have declared that it is neither a clever etching, nor a painting, nor a print, nor any other form of pictorial representation with which they are familiar. Examination under the microscope has failed to reveal that it is anything other than what I claim it is—a real two-dimensional guinea pig.

And Gyp—I adopted him after he had saved my life. He is not here to give evidence any longer, but he was a noted character on the campus of Old Bennett, and you could find any number of men, who were students there when the Old Bennett was destroyed, and when the new University was built, who would swear that his eyes and his front feet became transposed about the time of the earthquake. After living to a ripe old age, he departed to what I like to call "the Higher Plane."

I have never been able to reconcile Biology and Immortality. But as I grow old, I begin to have thoughts about death and what comes after—if anything. And I like to think that when my time comes, I shall cast off my cumbersome third dimension and pass on to that upper plane where, in the words of Theda, "There is no immorality or convention or scandal, and everything is beautiful and pure, and love is on a higher plane." Perhaps in that existence she will be able to spare me a little of her love which was denied me in this world. I hope to find the dear old Doctor there. And I believe that Phil and Theda have been happy there these many years.

As for me—I am already on the platform ready to be projected. Push the lever forward! And smash the reverse!

THE END

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IT has, of course, been the dream of countless scientists to create life in the laboratory. It is claimed that in some slight degree a few of these experiments have been successful in recent years. It is hard to foretell how much more successful such experiments may prove in years to come, or what attending dangers might follow, even if these synthetic creations remained of negligible size instead of attaining monstrous proportions. The danger might even be greater—because there would seem to be no danger. But that is only part of the story. The rest is of unquestionable scientific interest.

By Stanton A. Coblentz

Author of "The Sunken World," "After 12,000 Years," etc.

How triumphantly he must have observed the freshly created cells become suddenly mobile. And how gratifying when Kramm's animalcule was seen to split, leaving two complete animalcules in its place.

The Wand of Creation

IT was not by chance that Dr. Emery Kramm discovered the secret of the so-called "blood-mite." His success was due to none of those freaks of fortune by which lesser men occasionally stumble upon an unexpected treasure. For Dr. Kramm was not one of those who blunder by inspiration; he was one who worked with the mathematical evenness and the certitude of a chronometer. Hence he foresaw his astonishing discovery years before he actually attained it. His entire life, in fact, had been devoted to the consummation of that one goal; first as a student in college, later as a lecturer on the theory of vaccines and inoculation, and finally as director of the bacteriological laboratory of Henry Elkins University, Dr. Kramm had devoted his spare hours to a single object, to which he had clung with the dauntless tenacity of an oyster adhering to its native rock. In the face of discouragement, of ridicule, of financial loss, of wasted hours too numerous to count, Dr. Kramm had persisted; until finally, in his sixty-fourth year, his efforts were crowned with that triumph which dinned on the ears of the world like a thunderclap.

Yet his goal was not one which had never been sought before. It had been coveted by many an investigator of less perseverance and less talent than Dr. Kramm possessed; and some of these had apparently progressed a slight distance along the difficult road, but in the end all had thrown up their hands in defeat. Dr. Kramm had been seeking, in a word, to solve that most difficult of all problems—the enigma of life. He had been striving to bridge the gulf between inert matter

and organic tissue; to convert dead clay into mobile, sentient substance. Nor was he content with the half-way measures of his predecessors. He did not aim to create a chemical cell with the mere superficial semblance of life; he would have scorned to stop, as a certain contemporary had done, with fertilizing the egg of a rudimentary organism by electrical means. His purpose was as uncompromising as his methods were thorough-going; and his lifelong principles were those to which he himself gave expression on that epoch-making occasion when he placed his discovery before the world.

"I realized from the first the difficulties of my task," he declared, in that learned document which must remain for all time a scientific classic. "I knew the boundless complexity of protoplasm, and the tremendous gulf between dead matter and even the simplest living things. To create protoplasm might in itself have been a Herculean task; but I did not allow my ambition to pause at this point. I desired to create protoplasm with *all* the essential functions of life. And what are the essential functions of life? They are simply stated, and are only three in number: respiration, assimilation, and reproduction. To these may be added a fourth, which, however, is less essential: the power of locomotion. If I could succeed in creating an organism—a one-celled organism—with only the first three of these four qualities, I should have accomplished man's age-old dream to give life to pulseless clay. . . ."

It will be needless to recount the various steps by which Dr. Kramm brought this dream to fulfillment. It is well known how, as the fruit of years of labor, he produced the gelatine known unromantically as "sea-glue" from the distilled essence of a certain marine plant; and how this gelatine, when mixed with certain hydrocarbons and then subjected to electrical rays in a manner that Dr. Kramm has explained at great length, may be divided into microscopic particles, each of which, though but an amorphous mass of jelly, displays the nucleus and the characteristic appearance of one-celled animals! This fact has been abundantly described; but what is not so generally realized is that, at this point, there came a delay of ten years in Dr. Kramm's experiments. For the cells, though they had the aspect of living things, lacked all three essentials of life. They could not absorb oxygen! They could not assimilate food! They could not reproduce themselves! And while a faint quivering was observed in them at times, indicating a latent power of locomotion, the result was merely to perplex and tantalize their creator.

BUT it was not long before the sure instinct of genius informed him what was lacking. "I recognized," he writes, "that it was as if I had created a human body, but had provided neither nutriment for it to absorb nor oxygen for it to breathe." In other words, the cells were potentially, if not actually, alive; all that they required was a propitious environment. But how give them such an environment? That was a problem which, as the scientist himself states, "turned the last hair gray" upon his head, and "planted the rutted lines of age" upon his cheeks and brow. To square the circle or to learn the secret of perpetual motion seemed as easy as to find the proper life-conditions for those infinitesimal cells; Dr. Kramm immured himself like a hermit, experimenting until his friends suspected him of incipient lunacy; he tried preparation after preparation, from stagnant water to complicated protoplasmic brews, but never with any results not calculated to make him wring his hands in agony. He did have certain partial successes, it is true—successes that, though they would have made lesser men jubilant, were only enough to prod Dr. Kramm to further efforts. Under certain circumstances, he could cause the minute cells to move through water with a slow, apparently voluntary motion; under certain other conditions, he could induce them to open and to absorb minute digestible particles; and at the same time he suspected, but did not definitely know, that they could consume oxygen. Yet he found no means of making them reproduce, and no means of preventing them from dissolving and dying after a few hours. Was the artificial creation of life after all as futile as the carving of statues out of snow?

Dr. Kramm does not make it quite clear what it was that ultimately gave him his saving idea. Perhaps it was that all things, except one, had been tried and found wanting; perhaps it was that he arrived at the solution by an elaborate process of reasoning too difficult for the unscientific mind to follow. At all events, the important fact is that, after ten years of fruitless experimentation, Dr. Kramm wrested victory from the very teeth of defeat. And the agency of victory was something that, had he only suspected it, he might have employed from the beginning. It was something without which he, no less than the organism of his creation, could not have survived. It was the very blood within him! For, after all else had failed, Dr. Kramm found that the one-celled creature throve upon blood!

With what feelings of amazement and exultation the scientist must have watched his first blood-culture under the microscope! How triumphantly he must have observed the freshly created cells become suddenly mobile, move about furiously with every evidence of life, and fling themselves upon the red corpuscles! And what a fascinating spectacle as these new-born motes absorbed the corpuscles, absorbed also the white corpuscles that came forth to oppose them, and proved themselves to be fighting particles of no mean ability! And how gratifying when, after expanding as a result of the feasts of blood-cells, the nucleus of each of Kramm's animalcules was seen to split, leaving two complete animalcules in its place! At last Kramm had achieved the seemingly impossible! He had created a new, self-perpetuating species!

But even amid the joy of triumph, he did not leap to ill-formed conclusions. The caution of years of slow investigation was still with him; again and again, with the utmost patience and care, he repeated and tested his experiment before presuming to give the results to the world. But in the end there could be no doubt. The "blood-mite"—as his discovery was popularly called—could not only be produced at will, but would invariably move, breathe, consume nourishment, and reproduce in a culture of blood!

THE world-wide clamor, upon the announcement of these facts, is now a matter of history. It is remembered how enthusiastically Kramm's statements were received, how eager and how heated were the discussions in every cultured circle, and how generally the

dawn of a new scientific era was foretold. Nevertheless, mingled with the tumult of acclaim, the voices of the skeptical began to make themselves heard, and many an unbeliever protested that Kramm's alleged discovery was impossible, and that the doctor was either deluded or a charlatan. Hence numerous parties of investigation—welcomed by no one more than by Kramm himself—began to visit the bacteriological laboratories of Henry Elkins University; and letters of confirmation, signed by some of the most eminent scientists of America and Europe, commenced to appear in medical journals and even in the daily papers, dissipating the last doubt as to the authenticity of the discovery. . . . Yet it was one of the investigating parties which, by a freak of ill fortune, was indirectly responsible for the unexpected aftermath of Dr. Kramm's discovery, and resulted in converting one of the supreme scientific achievements of the age into the greatest curse that had ever afflicted the human race.

The exact facts, of course, remain clouded in doubt, since at the time the error occurred it was not observed, and consequently we have to depend on memories and surmises for our information. Yet Dr. Kramm stoutly maintains that there can be but one explanation. In a lengthy treatise, which covers the subject exhaustively, he contends that the seed of disaster must have been sown on the occasion of the visit of the delegation from the University of Bristol. . . . The summer of 1949, as every one will recall, was a particularly hot one, and the heat was especially burdensome on that August day when the Bristol savants made their call; hence it is not surprising that one of them, not observing the warning that Kramm had plastered on the laboratory walls, presumed to open a window without the formality of asking permission. And this trivial deed, incredible as it may appear, was to be the forerunner of world-wide catastrophe. In their preoccupation with Kramm's demonstrations, none of the professors at first observed the open window, and Kramm himself did not notice it until, to his astonishment, a large-sized fly settled on one of the blood-cultures, which was probably the most inviting morsel in the room. Naturally, the doctor was annoyed; but he himself, with characteristic frankness, admits that he was little more than annoyed; he had as yet no anticipation of the terrible fruit of evil that lay in store. And so he did what any other normal human being would have done in the circumstances; he chased the insect away. And, while the creature went spiraling and circling out into the open, he slammed the window with a bang, and requested his visitors to leave it down thenceforth.

And straightway he proceeded to forget the incident. It was several weeks before the thought of it recurred to him; and when remembrance did come, it was under sadly altered circumstances. For, in the interval, strange things had been happening in the world.

The beginning occurred when one of Kramm's neighbors—a man who had always prided himself on the strength of his physique and on his immunity to disease—was taken mysteriously ill. The malady was of a type that four physicians, in puzzled consultation, unanimously failed to identify; it was as if the victim had suffered from a severe hemorrhage or sudden pernicious anaemia; for, while hale and healthy one day, he had become weak as an infant on the next, and displayed the pallor and the lassitude of one who had sustained a serious loss of blood. And yet there was apparently nothing to explain this transformation. No vital organ seemed to be affected; there was a slight fever, but its source could not be traced; it was just as if the sufferer were fading out of life. And when, on the third day, the sick man sank into a sleep from which he did not awaken, the physicians were as far as ever from diagnosing the case. Nor were they greatly helped by a *post mortem*, which showed no organic impairment, although it did reveal an astonishing paucity of blood corpuscles.

HAD this been the only case of its kind, it might have been recorded as a medical curiosity, but would otherwise have been forgotten. But it was merely the first of a long series. A second and even more sinister manifestation occurred when the wife of the sick man, as well as three of the attending physicians, fell ill with precisely the same symptoms—and, after three days, quietly expired. Simultaneously one or two of the neighbors took to their beds as if suddenly drained of their last atom of strength; while in another quarter of the town, eleven cases of a similar outbreak were reported to the Board of Health. By this time matters were coming to be recognized as serious, particularly since all but two of the first fifteen victims succumbed.

What was not recognized, however, was that the trouble was so far in its infancy. As yet the enemy had fought only a few preliminary skirmishes; but having won the initial engagements, it was to launch a gigantic attack. In a hundred places simultaneously the mysterious death appeared. In every part of the city, and in the outlying country districts, the people began to fall ill and die for no apparent reason; while several cases were reported in a town a hundred miles away. Always the symptoms were the same; exhaustion, a sudden failure of strength, followed in most cases by speedy decease; and always the cause of the illness remained hidden. It was as if the populace, seized by some dark visitation of Providence, had been stricken by an unseen hand, while man after man was plucked as a ripe apple is plucked by the invisible fingers of the wind. And by the time the malady had spread across an entire state, and five thousand persons had been afflicted and more than forty-five hundred had perished, a wild, superstitious terror began to possess the land. No invading army, among all the ravaging swarms that history has known, ever aroused quite the consternation of that unknown pestilence; men suddenly became panic-stricken, insane; the doors of business houses were closed; farm-lands, wharves, and mines lay idle, offices and factories were deserted; men immured themselves within their homes, seeking to shut out a foe that none the less slyly, insidiously intruded; or else they took flight, but did not know where to flee; while, in their mad rush from the smitten districts, they seemed only to lend wings to the terror. Wherever they went, the disease was certain to appear; within two weeks, it had covered the length and breadth of the country! More than one hundred thousand cases had been reported in the forty-eight states; and the fatalties—which, in that period of horror and confusion, could not be computed exactly—were said to number more than ninety thousand!

Even amid the bewilderment and dismay of those

terrible days, scientists were busy ascertaining the cause of the plague. Many a valiant young investigator, bent over his microscope at a risk only too clearly realized, felt the feebleness and languor of the disease overtaking him, and offered up his life as a sacrifice. And many a theorist, hovering aloof from the scene of disaster, evolved hypotheses to account for the awful visitation—hypotheses which in only one particular were recognized as sound: the malady showed every sign of being contagious, for those that came into contact with the victims were themselves likely to be afflicted, while the disease spread from an observable focus precisely in the manner of a bacterial infection. Here at least was a clue to work from—and it is unfortunate that, amid the nation-wide chaos of the first attack, no researcher had the persistence and skill to follow the hint to its logical conclusion. Not until the scourge had gained universal headway, and the inhabitants of Europe, Asia and Africa no less than of America were perishing by the thousands, did any man make the discovery that was to point the way to the elimination of the pest.

DURING all this time, of course, no one thought of Dr. Kramm's creation in connection with the epidemic. Dr. Kramm and his creation alike, in fact, had both passed from the public mind—until, with the suddenness of a fresh disaster, they were recalled. It was an obscure young physician who, working in the laboratory of one of the smaller medical colleges, made the revealing observation. Peering under a high-power microscope at a particle of blood from a victim of the "fainting sickness"—as the disease had come to be called—he observed a number of transparent, formless motes, which made their way slowly through the blood-stream, and which, coming into contact with the red corpuscles, flung themselves destructively upon those essential cells. Here, manifestly, was the cause of the "fainting sickness!" Here was a microbe new to science! Yet the manner of its action was evident enough: it was a sort of carnivorous monster that preyed upon the blood cells; and, having entered the circulatory system, it would multiply with great rapidity and destroy corpuscles by the wholesale, until not enough were left to sustain life. Only in the exceptional case was the resistance of the body sufficient to overcome this potent germ.

But whence came the germ? How did it happen that so formidable and unique a species had escaped all previous observation? At first the investigator found these questions impossible to answer; having no first-hand acquaintance with Dr. Kramm's discovery, he had no means of identifying the new-found mote. One of his colleagues, however, had been a member of a party invited to Kramm's laboratory, and could not fail to recognize the amorphous moving particles that had constituted the triumph of Kramm's lifetime!

And thus, almost in a flash, the dismal truth came to be understood: Dr. Kramm, in solving the secret of life, had at the same time lent aid to the emissaries of death. The cell which he had created so laboriously had turned out to be a disease germ of unexampled virulence!

But the announcement of this fact, important as it was, for a while promised to be barren of practical results. It was one thing to have ascertained the cause of the "fainting sickness"; it was quite another thing to determine how to conquer that cause. With set teeth, and haggard, anxious faces, physicians all over the world gave themselves to the problem; they experimented with toxins and anti-toxins, with fumes and vaccines and chemicals of a thousand kinds; they tried radium, and X-rays, and electricity, and glandular treatments; they battled to find some opposing, harmless bacteria; they flung down their lives in seeking a means to prevent the spread of the disease-bearer. But all to no avail! They did not even know how the sickness was communicated—and their efforts only served to emphasize their despair. All the while, like some malevolent spirit, the disease was spreading; all the while it was snatching victims right and left from the cringing, praying, demoralized, shuddering ranks of mankind; whole tribes were being annihilated, whole districts emptied of human life; there was scarcely a community, throughout the wide reach of the civilized world, that had not been made desolate; there was scarcely a town or hamlet that had not known the tears of mothers, the moans of bereaved wives and of orphaned children, the sighs of the afflicted and the dying, and the lamentations of the long funeral processions. After three months, the human race had been decimated, and still the pestilence, with long, octopus-like tentacles, was reaching out blindly, devouring, and devouring, and devouring. . . .

It was by ironic justice that the man innocently responsible for the disaster should have been the one largely instrumental in checking it. Dr. Kramm, overwhelmed at the knowledge that his intended gift to mankind had turned out to be a curse, had been giving exhaustively of his days and nights in the attempt to discover some remedy. And, from the beginning, he worked on original lines. How, he asked himself, had the "blood-mite" come to be scattered abroad? He had done his best to keep all the cultures safely within his laboratory; and it was inconceivable that his visitors should have borne any of the cells away, since none had come into direct contact with the cultures. What, then, was the explanation? In a startling flash of revelation, Dr. Kramm recalled the incident of the open window and of the fly settling on the blood-culture. Was it possible that the insect had carried away some of the animalcules on its foot-pads, and that they had multiplied until they gave birth to world-wide pestilence? Knowing how rapidly all one-celled organisms multiply; knowing, also, how efficient flies may be as the agents of disease, Dr. Kramm was not one to scoff at this notion; instead, he set out immediately to test its validity. He found that a fly, which he encouraged to settle on a culture of the "blood-mite," did indeed bear away the cells by the thousands; he found, moreover, upon examining hundreds of flies caught at random, that in three cases out of four, the creatures were carriers of the dread disease. Furthermore, his necessarily hurried investigations did not reveal any other insect carriers of the disease.

It was therefore apparent to Kramm that the flies, while themselves immune to attack, had been the disseminators of the epidemic. Laden with germs gathered from contact with the saliva, the excrement, or even the skin of the victims, they had settled upon food, as a result of which the germs had been transferred and found means of access to the human system. This was

all simple enough, and quite in accordance with findings in regard to other and less vicious diseases; and, at the same time, the remedy was obvious. Guard against flies! Shun them as if they were venomous serpents! Eat no food with which they came into contact! War upon them as upon man-eating tigers! This warning, flashed from end to end of the world upon Kramm's urgent request, was translated into every language, was posted in every town and village of the earth, was dinned and dinned into the ears of the people by medical advisers and lay speakers alike. For, only if these orders were followed, was there any hope of saving mankind. . . .

Time has justified Dr. Kramm. The two years since the outbreak of the plague have witnessed its almost total suppression. Once men began to guard against flies; once they began to shield themselves in terror and loathing from the little winged menace, the "fainting sickness" commenced to wane. For a while, to be sure, new cases by the thousands continued to appear; but it was not long before the numbers had diminished appreciably, and the "blood-mite," denied means of access to the human system, began to return to that oblivion whence it had issued. But the toll it took was sufficiently severe. It will never be known positively how many lives were snuffed out, but conservative estimates place the loss at two hundred millions—a more deadly toll than that of any war ever waged!—while even today, in some outlying district when caution is relaxed, an occasional stray case of the disease is reported. But it is believed that even such rare cases will eventually be averted, and that the "blood-mite" will soon be no more than an interesting scientific remembrance.

None the less, a certain rumor now current cannot be disregarded. It is said that the governments of the world, harboring secret cultures of the germ, are planning to use it as an instrument of aggression in the next war—and to scatter it by a new-found means much more effective than that presented by the fly. One trusts, however, that such reports are mere fabrications; it would be too ironic if Dr. Kramm, in his successful search for the secret of life, should have placed in the hands of his fellow men the means of driving human life from the earth.

THE END.

What Do You Know?

READERS of AMAZING STORIES have frequently commented upon the fact that there is more actual knowledge to be gained through reading its pages than from many a textbook. Moreover, most of the stories are written in a popular vein, making it possible for anyone to grasp important facts.

The questions which we give below are all answered on the pages as listed at the end of the questions. Please see if you can answer the questions without looking for the answer, and see how well you check up on your general knowledge of science.

1. What great discovery in physics was given out in the present day? (See page 394.)
2. What is the branch of physiology and medicine which is called geriatrics? (See page 417.)
3. How long in 1829 was a dog's head claimed to have been kept alive separated from the body? (See page 418.)
4. How does adrenalin act if injected into the circulatory system? (See page 420.)
5. What is the theory of the existence of matter as formulated by the idealist? (See page 424.)
6. What is a good suggestion as to the status of the fourth dimension? (See page 425.)
7. Give a theory of the relation of the cretinous state to the secretions of the glands? (See page 459.)
8. How may the effect of cretinism affect the person? (See page 459.)
9. What chemical is used in submarines to absorb the carbon dioxide from the vitiated air? (See page 449.)
10. What is the relation of Newton's third law of motion to the propulsion of a rocket? (See page 449.)
11. What effect of acceleration would have to be provided for and controlled in a space traversing rocket? (See page 452.)
12. What are four essentials of life? (See page 436.)

Out July 20th

Summer Edition

Amazing Stories Quarterly

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Venus Liberated, ***by Harl Vincent***
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When the World Grew Cold, ***by Paul H. Lovering***

A New Interplanetary Serial in Two Parts—Part I

Out of the Void

By Leslie F. Stone

WHAT can be more stimulating to the imagination than a trip through unexplored space? Man has been going higher and higher in the air and there seems little doubt about his ability to reach the outer atmosphere some time and perhaps even venture into the vacuum. Many lives will probably be lost in the attempt—but the realization is hardly beyond the pale of possibility. This seems particularly feasible since the discovery by the Westinghouse people of permalloy, that new metal which tends to neutralize gravitation.

And perhaps this talk about the impossibility of crossing the vacuum is only a legend—more or less like the talk that was rampant in the days of Columbus about crossing the ocean. It seems ridiculous to us now, but the same may some day hold true of interstellar travel.

In the first instalment of this story, the author gives us excellent description not only of the sphere which makes the trip, but of the great void through which it travels, too. "Out of the Void" easily justifies the favoritism which is showered on interplanetary stories.

The Narrator Starts on a Fishing Trip

THE possibility that life is sustained upon a number of our sister planets has changed to probability, but we on Earth have as yet had no conclusive proof that such life is to be found on other orbs. There has been talk of sending a man to the Moon by a rocket, and we hear much about radio-telegraphing to Mars. Yet, up to the time of these events of which I am writing, none of our scientists had taken seriously the possibility of a visitor reaching Earth from another planet.

Neither had I!

I am not a scientific man. In fact, I am not even a radio fan. To me, the moon is an appendage—an interesting appendage, to be sure, of this good old world, and the stars are there to relieve the monotony of the night sky. It doesn't matter to me whether the Earth is round, whether it moves around the sun, or whether there is life on our sister planets or not. I offer these introductory remarks because I want it understood that this is being told from a layman's viewpoint—from a disinterested layman's viewpoint. I have no theory or explanations. I have only cold, bare facts.

I am one of those beings usually designated as the T. B. M. I go to the shows whose patronage depends largely on that class of man. And like a great many brethren, I am a devotee of the art of fishing. This is not a fish story, however, though it has its beginnings in a fishing trip!

It was on one of those rare occasions when I slipped away from the turmoil of Wall Street to my own particular fishing lodge, a ramshackle little hut on the bank of one of the finest trout streams in the east, bar none, that I had my adventure.

That afternoon I had telephoned the wife that I would not be home for dinner for three or four nights. Catching the last train out, I was soon disembarking at my wayside station. I carried nothing but a small grip containing my necessities and my beautiful fishing-rod. Walking briskly I left the confines of the tiny New Jersey village, and plunged into the dense woods that hedged in my shack.

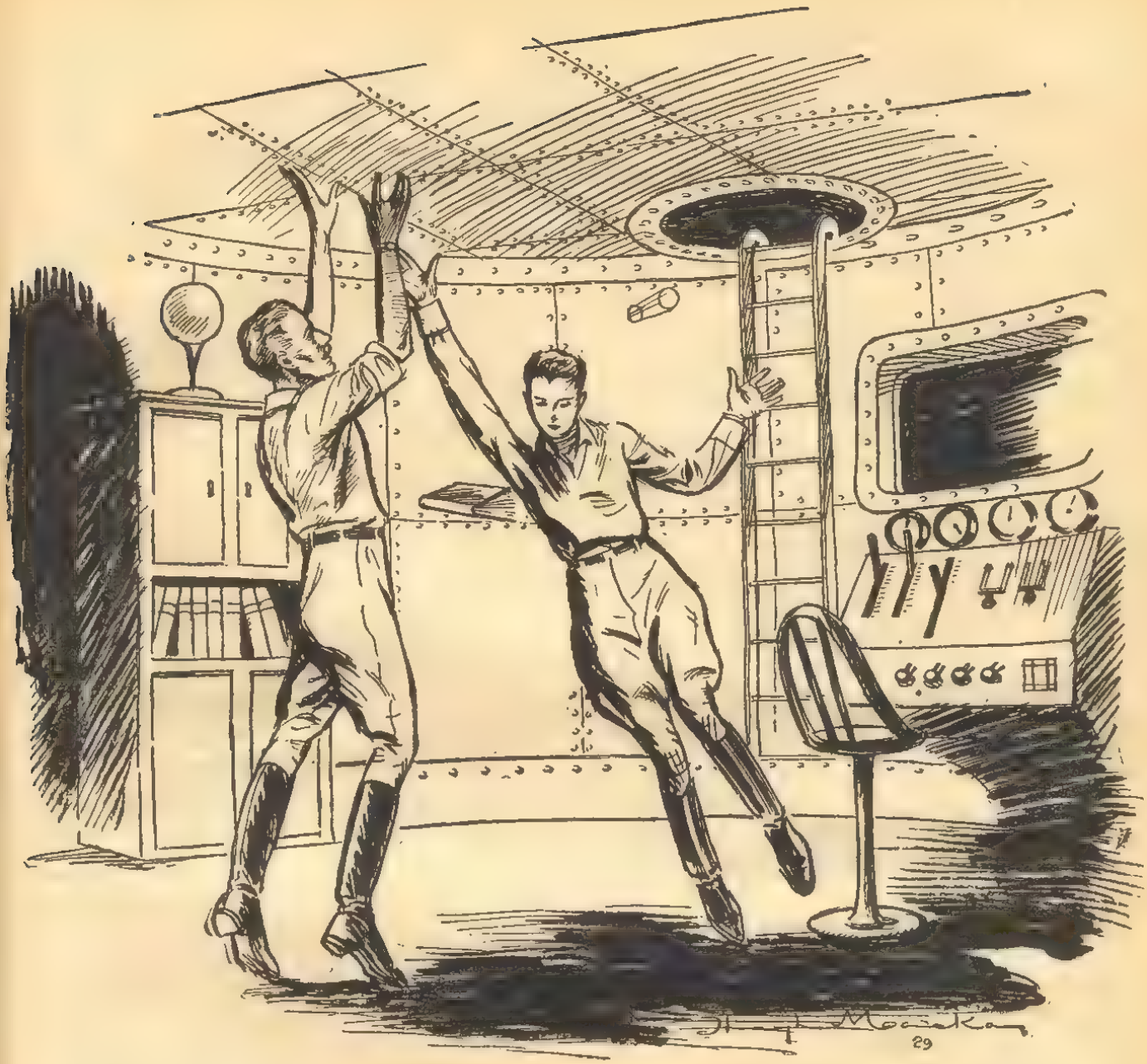
It was already night, and I hurried, for I had the city man's fear of the dark. I met no one, though once or twice I had the sensation that the woods were full of spying men. Once through the trees I saw the gleam of what appeared to be the eyes of a cat, or a wolf, but I laughed that off, realizing it could be no more than two fireflies.

I hurried on my way whistling. Then my furtive eye caught the gleam of glass. Ah, thought I, a new neighbor! I resolved that I would pay him a visit the next day. The shack was reached at last, and with hands trembling with joyful excitement, I pushed open the door. I lit the oil lamp, filling it from a tin I kept for that purpose. The night was warm and I needed no fire. I busied myself in making the place habitable.

It was about five minutes later that I discovered the theft, and the jewel. I had always kept an old suit of clothing hanging on a nail against an emergency, such as a wetting, for instance, although I always brought an extra suit of khaki with me. Now the suit was gone! The suit wasn't worth anything; an old-clothes man wouldn't have given me a cent for it, but I did not like the idea of a thief around my hut. What could anyone have wanted with that suit? Then I saw the jewel!

There, on a small shelf, where I usually kept my toothbrush, hairbrush, razor, et cetera, quite close to the rack on which I had hung the old suit, was the most perfect ruby I have ever seen. At least I thought it was a ruby. It flashed and glowed like a thing alive. For several moments I stood there, too enraptured to touch it. I knew immediately that the jewel had been left in lieu of payment for the old suit! But what sort of person would do such a thing? To whom could that suit have been worth a ruby? A thief, an escaped convict? No. A thief or an escaped convict would hardly have considered payment at all.

I went to sleep with that ruby under my pillow. And



¶We both started to our feet, and were unprepared for what followed. We were suddenly plunging toward the ceiling as easily as a feather. By putting out a hand against the ceiling we pushed ourselves downward to the floor.

for the first time the door and windows were locked. The next morning I was up early with a tingle in my blood. Just outside my window I could hear the song of the stream as it bubbled and swirled among its rocks and pools. Dressing, I stopped only for a cup of coffee.

All morning I fished, completely oblivious of any mystery. It was not until after three o'clock in the afternoon, when I finally went to the shack for some food, that I recalled the ruby. That jolt knocked all spirit out of me. I lost every desire to resume my sport. I sat brooding over the jewel. It was too strange. I recalled the curses that some notorious jewels had cast over their possessors. This might be such a gem. Or again, what if the thief had not intentionally left it and should return?

Hurriedly I left the hut. I needed air, but the stream and its trout did not lure me. The gleam of glass that I had seen the night before, appeared again. The owner of that glass might know something about this mystery. Anyway, I needed to talk to someone.

Half running, I quickly came to the spot where I had glimpsed the glass. There was no mistaking it; right there was the converging of two paths. At first I saw nothing; the trees and vegetation hid it, until looking upward, I saw the gleam again. I thought it was the roof of a greenhouse. Wondering who in the world would build such a structure in this part of the country, I walked toward it.

A Strange Visitor

THE country was clearing, and I came to the edge of a large natural open glade, where I stopped short. Astonishment halted me in my tracks. There in the center, or rather almost taking up the en-

tire clearing from one side to the other, reposed a giant construction. It was cylindrical in section, and of the same general design as a torpedo, except that it had two conical ends. It was fully a thousand feet long and perhaps fifty feet in diameter.

I did not stop to conjecture about the whys and wherefores of this strange thing. After my first surprise I walked up to examine it. It was glossy white, and seemed to have a glass-like finish, and it was opaque. I discovered later that it was constructed of glass, but I would not have believed it then. I walked all around trying to fathom its secret, its purpose. There was not a single opening anywhere. It seemed to have been made of some highly polished stone, and picking up a sharp pebble, I tried to scratch the smooth surface. I pressed with all my might, but the white surface withstood me. I could make no mark upon it and the stone's tip was blunted. It was then that I perceived that the thing was of a clear transparent material, and the whiteness behind it might be a blind drawn over it!

Since a stone could not scratch it, I tried the edge of the diamond in my finger ring. It made not the slightest impression. Determined to discover some way of breaking it, I backed away several yards, and picking up a stone, hurled it with all my strength. The stone bounced off like a rubber ball.

For all of an hour I dallied around the cylinder, trying to discover what it might be, or its purpose in that spot. Half a dozen times I encircled it, running my hands over it as low as possible and as high as I could reach, endeavoring to find some weak place on its wide expanse. With much difficulty, for I was not as slender then as I was once, nor as spry, I climbed to the top of a young tree to see what lay atop. There was nothing but a smooth, unbroken surface. My curiosity was now very much aroused, but I could find no plausible explanation. At last I decided to inquire about it in the village.

With the chagrin of a baffled man I picked up a rather large rock, as I turned to go, and flung it with all my strength against the thing, exactly as a peeved boy might have done. I was startled to hear a deep hollow boom. At least the thing was hollow. But the stone left no blemish. In disgust I headed for the village. And then I was frightened by the most inhuman shriek.

It was beginning to get dark. It was that time of evening when the dusk is settling and nothing seems real in the half light. This is particularly true of the woods. It came bearing down upon me, a thing of white, that in the twilight appeared to tower over me many feet. A ghost! I had no time to think. I saw that it was clothed in flowing draperies that streamed behind it. And in those flying things I saw a face—if it could be called that. It seemed more like a mask of many colors and distorted features. I saw all this, as it descended upon me, screaming. And in the growing darkness I saw a pair of eyes that gleamed like the eyes of a cat!

It closed down upon me—flesh and blood, strong and wiry! I could get no hold on it. Something fell on my unprotected head, and there came a painful blackness. I recall a hazy awareness of other beings and I was being borne off toward the white cylinder, and through the walls!

When I regained my senses I was comfortably spread out upon a wide soft couch. A blinding light filled my eyes, and I quickly closed them again. I lay there, wondering what had happened to me. Then like a flood the memory of it all returned! The stolen suit, the strange ruby, the white cylinder, the attack—it all came back to me.

I opened my eyes again; this time the light did not bother me. I saw that I was in a room—the strangest room I had ever seen. Close at hand, just below my couch, lay a pool filled with water, that lapped gently at the sides. Strange flowers, of forms and colors I had never seen before, grew in pots around the pool. The flooring was of tiles, and the ceiling was of glass. A light seemed to flow from the entire surface of the ceiling, and lit the room with a diffused glow that was like sunlight. The walls of the chamber held my attention.

They were of mosaic tiling, depicting a pretty piece of scenery. It was as if I were lying in a valley surrounded on all sides by low tree-covered hills with a bit of sky above. On one wall was a meandering river with a pretty waterfall, and above it was the sun, only it was shown as being relatively about as large as an apple and half covered by clouds. Another wall showed a city of tiny white houses built on a terraced hill. The other walls carried out the hill scene. It was above the city that there was one bit of incongruity that spoiled the entire landscape. It appeared like a second sun, yet almost three times as large as a sun should be, and its color was a pinkish lavender, that contrasted strangely with the greens, browns, blues, and whites of the scene.

After looking about me, I sat up, and was immediately overcome with a dizziness and a shoulder that pained. I now looked wildly about for a doorway, but nothing seemed to break the continuity of the tiled walls. I tried to get to my feet. Finally I succeeded in standing up. I swayed and reeled, fell into a dead faint a second time.

WHEN I regained consciousness I was back on the couch. A man was bending over me. Beyond him I saw that a section of the wall had opened, sliding into grooves on either side the opening.

"Do not attempt to rise," I heard him say, "your collar bone has been fractured, so you must move about as little as possible."

I think I cursed; for the blood rushed to my head. A pretty predicament I was in.

The speaker continued. "I regret exceedingly that you have been put to this discomfort, sir; my servant was over-zealous in performing his duty!"

"His duty!" I exploded. "Do you think it was his duty to attack an innocent . . ." here I fumbled for a word.

"Meddler?" supplied my host.

I bristled at that and was about to say something caustic, but the surprise I experienced on looking up at my host—or captor—made me forget my anger.

He was a large fellow, standing a good six inches over six feet, with a body perfectly proportioned. I thought of the statue I had seen in the Vatican of the Apollo Belvedere. His feet were small and his hands were almost as fine as a woman's. His clothing was cut to show the body to advantage, fitting the legs as

tightly as a glove, with a smock cut close to the shoulders and low at the neck, and girdled tightly at the waist.

Still it was not his form that struck me so forcibly. It was his skin! Picture a statue of fine well-polished silver—silver generations old—radiating an inner lustre. The man was truly a *silver man.* Face, arms, hands, and even hair, fine as silk falling to his shoulders, were silvery. Only the inner flush that glowed under the skin gave proof of red blood behind that strange complexion. And he had lavender eyes!

I was speechless! My eyes strayed about the strange room, to the man's stranger garments, and back to those peculiar eyes. At last my tongue came free. "My God!" I cried, "What kind of man are you?" A hundred questions raced through my mind.

"We come," said the strange man, "from a most distant planet, of which you on Earth are not aware, a planet quite on the edge of your Solar system. We have no name for it but Abrui, which translated means 'Home.' However, we are concerned chiefly about the present, and must consider this untoward situation."

His words left me oddly chilly. A cold sweat broke all over me. I could not think, but somewhere something was repeating over and over again, "Men from another planet, men from another planet!" I closed my eyes to arrange my thoughts once more. I knew that I was not dreaming, and that this was reality. There was a pain in my shoulder. I turned once more to the man. "But I don't understand? How did you come here? How?"

I saw him shrug his shoulders slightly, and I realized he considered me a nincompoop. He answered, "You are aboard an interplanetary vehicle. We call it the *Yodverl,* which in your language means 'The Ship of the Void.'"

"How is it then you speak my language?" I demanded.

"That, my friend, is because I am not the first to have traveled through space. He who went before was from this, your native planet."

I tried to comprehend what he had said, but it was difficult. Having been penned in by a routine of business all my life, it was difficult for me to conceive such possibilities or to follow such a train of thought as this man's words had opened up for me! I saw he was waiting for me to continue questioning him. "And now that you are here, what are your intentions?" I thought of what a reception New York City would give this man. Lindbergh and Dr. Eckener (who had but recently crossed the Atlantic from Germany in a dirigible) would find their noses out of joint.

The Secret Mission

HE was smiling at my question, and I had a feeling that he had read my thoughts. "My mission here is a secret one. I am concerned with nothing of this world except one man, to whom I bear a message. We arrived on this planet two nights since, and I hope that by to-morrow night we may be in position to make our departure, that is, after we have returned you safely to this spot." He sighed, but not I. I wanted to know what he meant by his last words.

"You, sir," he explained, "are luckily the only trespasser who has had the misfortune to discover our retreat here. We landed at night and slipped into this quiet glade without discovery. On reaching your planet we picked out a spot near one of your large cities. We needed some equipment as well as a map, by which we might find our destination. Fortune led us to New York which we found by means of its great lights. Thence we traveled this far. I went foraging and discovered the old suit in the cabin, which I take to be yours, and I hoped that its owner would not return before we were on our way.

"When you came to find us it meant but one thing. We had to capture you before you carried your story to the village and brought intruders here. Hence you find yourself within our vehicle. And though we regret it, we must act so as to insure the keeping of our secret during our stay on Earth. You may rest assured, however, that you will be returned to this spot safe and well."

I glanced ruefully at my shoulder. "It will be six weeks before that can heal."

"On the contrary. We have with us a salve which has a healing power that your medical men would, no doubt, consider miraculous. Your collar bone will be completely well within a week's time. Allow me to bandage it again and rub it with this salve."

As he worked on my shoulder with his cooling unguent, another man entered the chamber. He was like the first, silvery and handsome, but somewhat younger. His knowledge of English was not equal to that of the older man, nor did I take to him as readily as I had to his companion. He addressed my host as Sa Dak, while the younger fellow answered to the name of Tor.

Later, as I began to notice Sa Dak more particularly, I saw that his face was one of power, while in the eyes was an expression that bespoke some great sorrow. There was no way to determine his age from his features, and one could not see gray hairs among the silver. I judged him as a man in his prime, probably in the late thirties or early forties. The other had no fine marks of character in his youthful face, and his lavender eyes expressed no emotions. He seemed to me to be no more than twenty-five years old.

After rubbing my shoulder well, Sa Dak asked if it still pained. There was only the discomfort of the tight bandage and an ache that was no more than a slight toothache. I admitted as much, and felt better about the prospect of my imprisonment. Suddenly I remembered that I had told my wife I would stay away several days, and she should not expect me until I showed up. Somehow it never entered my mind to doubt Sa Dak's word, and I was looking forward with childish curiosity to this strange adventure.

Just then another creature entered the room. He was bearing a tray on which there were three glasses filled with liquid, and several dishes filled with food. The servant was somewhat smaller than his master, just as finely built, and had an extremely intelligent face; but his skin was different. Whereas his masters looked silvery, he looked golden! Hair, skin, and lips were like virgin gold polished, and glistening with the blood flowing under the skin. And his eyes were red! As red as vermilion, and they looked quite natural in that golden face!

My host, on perceiving his entrance, said, "Ah, here

is the culprit!" and rapidly he spoke to the fellow in a strange tongue. The servant cringed, his tray trembled as he looked in my direction. He managed to distribute his burden among us and waited nearby while we ate and drank. What the liquid was I did not know; the food was also strange but was vegetable-like and very delectable.

After taking the dishes, the servant waited patiently, just beyond my couch, with fear in his strange eyes. His master paid him no attention, but continued speaking to me.

"When you appeared in our vicinity, we knew immediately that it would be necessary to make you our captive. My companion and I enjoyed watching your attempt to discover what we were, and when you started away with the thought in your mind of making inquiries, and possibly to arouse the authorities, we sent this poor fellow out to capture you. It was his overzealousness in the duty of capturing you that caused him to wound you. Hence he is now at your mercy. Punish him as you will." And with a movement of his arm he brought the trembling slave into our circle.

I was greatly embarrassed. Had my captors suggested earlier, that I punish my tormentor, I would gladly have taken an eye for an eye, giving him the same that he had given me, but the situation had taken a different turn. I, who had thought these interplanetary visitors the intruders, was convinced that I was the intruder. I managed somehow to smile, though I was feeling like a bully who was beaten by a smaller fellow. I waved the slave away.

"You are to be complimented upon possessing a servant who performs his duties so fully," I said, and I smiled smugly to myself as I thought what a good example of my countrymen I was setting myself up as, in so magnanimously forgiving the man who had injured me.

The silver man turned to the golden one and spoke in their soft language. The slave looked at me with his odd eyes, and in the manner in which all mankind expresses gratitude, he threw himself at my feet and taking my hand in his, he kissed it. More embarrassed than ever, I looked to Sa Dak for relief. He spoke and the slave slowly backed out of the room. It is needless to say that during the rest of the time I spent on the *Yodverl* he followed me about like a faithful dog, fulfilling my desires before I had time to express them.

It was now quite dark outside and Sa Dak observed that within a short time we should be moving. I was rather inquisitive as to where our destination lay, but at a motion from Sa Dak the other followed him and they both hurried away through the doorway.

Curiosity Uppermost Again

CAUTIOUSLY I rose to my feet. This time I knew no dizziness, and I found that my shoulder pained not at all. Walking to the door I peered through and saw that a small chamber lay beyond. At its far side was a second doorway, and I surmised that the two silver men had proceeded through it to their pilot room.

I glanced about the room. It was furnished very simply, with furniture made from a strange light metal. There was a broad desk in the center, sitting on a square rug of gray, woven from some rough material like camel's hair. Several chairs were set about, three-legged chairs with seat and back built to conform to the lines of the body. All about the room were set square cases three feet in height. I surmised that they contained books, although the shelves were concealed behind metal. I noted that the walls of the room were like the ceiling and the light came from all sides. There was nothing to relieve the whiteness of the glass.

The desk held my attention. On it was a tall slender metal vase with one of those strange exotic flowers that I had seen growing in the other room. Beside the vase were several strange oblong boxes of metal about ten inches in length and only one inch in width. Curious, I picked one up. On one side was a small metal tab which I immediately pulled. One side of the box drew out and to it were attached about two dozen thin sheets of metal, each one as thin as a sheet of writing paper, and on them was a strange form of writing. The letters were oddly shaped, and on examining them closely, I found that instead of having been printed or written, they had been photographed on the sheet. I took this to be a book.

Besides the several "books" which were on the desk, was a square box of metal. Of course, I had no right to be prying, but I was curious. I wanted to know all there was to know about these people. It would be something to remember all my days. So without any scruples I opened the box and let a cry of wonder escape me; for there on the same sort of metal sheets was a manuscript, written not in Abruian, but in English!

To Professor Ezra Rollins

Data Concerning the Results Gathered on the Arrival of the Rollins Rocket Upon an Unknown Planet Called by Its Peoples "Abrui."

With Greetings and Best Wishes to the Professor.

Dana Gleason

I looked no further, I closed the box, my mind now in a whirl. Dana Gleason, Dana Gleason. Where had I heard that name? Then it came to me. Years ago, when I was no more than a boy, I had heard the story of Dana Gleason, one of the wealthiest men in the world, of fine aristocratic stock, dating back to the early settlement of the country.

Dana Gleason had been one of the young society men whose very name brought envy to youthful hearts. Tales of his exploits, his polo ponies, his yachts, his globe-trotting, were read avidly by the curious public. His marriage into another house of equal rank and fortune appeared on the front pages of the newspapers. Then for two years, at which time his baby was born, Dana Gleason was completely forgotten. Almost immediately upon the arrival of the baby, both father and child disappeared completely. Later it was discovered that the father had spirited the baby away on his yacht. Several weeks later there came a sensational story when young Mrs. Gleason was killed at a railroad crossing in an automobile.

For months no more news was to be had, but an inquisitive reporter learned that the father had planned,

with the aid of nurses and tutors, to bring up his boy with a hatred of women. Five years later the last woman left the yacht, but she had been paid not to give interviews. Next we heard of the yacht (which was almost as large as a small steamship) from various corners of the world—from the north, east, west, and south. Dana Gleason, Jr., was having the finest education that man could acquire. The greatest teachers from every nation were taken aboard the yacht, and one heard of the famous men of the day being invited for cruises. The yacht was said to have a swimming pool, a gymnasium, a chemical laboratory, and an astronomical observatory. It carried its own wireless, and motion pictures of historical events were screened especially for the benefit of the heir. The accounts of his life aboard the yacht read like fairy stories.

The child grew up, and his father and he were heard of in every conceivable place on the globe. They were exploring the arctic regions, they had their fingers in some political pie in Latin America. They were skiing at Biarritz; they were shooting tigers in India, lions in Africa. They were at the Kentucky Derby; they were taking in the night-life of New York. They were with an archaeologist on the Nile; they were studying conditions in Manchuria. They were presented at the Russian Court; they were abducted by Arabs. They had attempted to climb Mount Everest. But why should I write all this? You, too, have read these accounts and reveled in them and envied.

You, too, can recall when the Gleasons joined the British forces to fight Germany. And you read the account of Gleason Senior's death in the third year of the War, and of the record the son made in the Air Force. And that was the last you ever heard! The name of Gleason was forgotten with the rising of new stars of front-page brilliancy. What happened to the son after the leadership of the father was gone? Was this manuscript perhaps the answer? Had Dana Gleason, Jr., accomplished the last possible thing left for him to do?

I turned again to the sheets of metal lying before me, but as I started to read further, suddenly the light about me began to fade, and I was in darkness! In wonder I looked about. Overhead, as through a very thick glass, I could see the stars, and close at hand I could make out the shapes of trees in the darkness. Then as I gazed in wonder, I saw that we were rising above the trees. Soon they were far below, and I could see nothing but the twinkling stars in the distance.

There was no pulsation, or vibration to suggest motors; it was only a gentle rising and a feeling of being suspended in space. Then through the darkness of the room I saw something that startled me. Two glowing orbs had appeared in the doorway. It was my host. He spoke.

"In traveling through the atmosphere of a planet, we shut off our lights. Our light does not travel far; that is why we allowed it to shine in the clearing, but it is enough to be seen from below. I trust its absence does not inconvenience you."

I made some inane remark that passed. I enjoyed watching our progress. I added that I regretted I did not have the power to see in the dark as he had.

"Dana Gleason could never become quite accustomed to the fact that we on Abrui could see in the dark as well as in daylight," he observed, and I realized that he knew that I had found the manuscript.

"Yes," he continued, "we are on the way to deliver that report to Professor Rollins who invented the first interplanetary vehicle. We are bound for Africa. Come, join us in the pilot room."

Looking Over the Works

I FOLLOWED him into the nose of the machine. Here the pilot, Tor, sat at some controls. All about us was clear glass; below we could see the woods we were leaving. A small light glowed here, a small round globe that contained a light in its center, although I could see no connecting wires fastened to it. A shade trained its light down upon a map of the two hemispheres, so that the light could be perceived nowhere else. I could see faintly two vertical rods rising from floor to ceiling, upon which were various levers and meters, and with these the young man was working.

On the map was drawn a line from the point which he had left, down through the center of the Atlantic ocean, along the equator to Africa. At a point approximately three hundred miles above Johannesburg and about one hundred miles in from the coast-line, our destination was marked by a small cross.

A chair was given me and I sat down where I had a good view of everything around us. Below we saw the lights of scattered communities, but these quickly dwindled to single lights of squatters and fishermen along the Jersey salt marshes. Then the dunes slid by and the rough waters of the Atlantic billowed. "How long do you judge this trip will take?" I questioned the youth at the controls. Sa Dak had left us for several minutes.

"Not more than three ro, which equals about four and a half of your Earthly hours," he declared.

I was incredulous, but the estimate proved almost correct, for we were there in exactly four hours! What would Lindbergh say to that?

Sa Dak returned from an examination of the motors. These engines were located in the far end of the ship. All I gathered from the details that he gave me was that the power of these motors was derived from that element very rare on Earth—radium.

Fifteen minutes or so passed. We saw a ship with its lights all aglow steaming on to New York. It was a pretty sight. I wondered what its passengers would say if they could see us. My host suggested that I lie down for a while, for my shoulder was still sore and he thought it best for me to rest as much as possible. He, himself, led me back to my couch so that I should not stumble in the darkness. I was tired and the bone was beginning to ache from weariness. The golden servant soon appeared, with a glass of liquid that was strangely refreshing. After I had sipped it, the stranger insisted that he must dress my shoulder. He rubbed a salve in with his cool deft fingers, then with a salaam he was gone, and I fell asleep.

Two hours later I awoke and returned to the pilot room. The two men were still at the controls. Water lay below us. We saw another ship bound, we supposed, for Capetown. We quickly passed it by. In another half hour the servant appeared again with food, a sort of cooked fruit. I might note here that all the

dishes with which we had been served, including those containing liquids, which later I have called glasses, were really of metal, like almost everything else the Abruians used.

At last we saw the shore line of Africa, and after skirting it for some distance we turned inland and the wide unvarying veld, with its low hills, and occasional groves of tropical trees, was below us. The moon had risen very late and now it was shedding its silvery glow upon everything. The skin of the two strange men caught its light and reflected it.

Lights now shone out in two or three directions; here the lone camp fire of some traveler or hunter; there the house lights of an isolated farmhouse. Then we came suddenly to a halt, hung suspended for several minutes in the air, and like a rocket we shot down toward a group of three lights that were shining from a low bungalow and its accompanying outhouses.

It was now one o'clock in the morning and the country lay still. Quietly, for all its bulk, the *Yodverl* made a landing, sinking down on the smooth grass several hundred yards from the darkened house. The bungalow was not completely dark, for lights shone from two of its windows. A single light burned in the Negroes' quarters beyond.

"We have arrived," stated my host. "It is rather late to be calling, but I believe we will be welcome." Then, turning to his companion, he made a remark in their own tongue and disappeared through the doorway.

"That was some voyage," I remarked to the youth.

He smiled. "It was necessary for us to travel at so low a speed," he said, quietly putting me in my place. "Out in space we travel many times faster than this."

I had noted from the start that this fellow spoke English with more difficulty than did Sa Dak. His was an English that had been learned book-wise and he spoke haltingly as he carefully picked each word. Sa Dak's mastery of the language was different. With perfect ease he used our idioms and slang expressions, and never seemed at a loss for a word.

Sa Dak reappeared shortly. He had changed his clothing and was dressed in a suit of white linen. The earthly clothing could not hide the beauty of his superb body with its easy natural grace. Instead it made him look taller, more massive, and more outstanding.

"The suit I took from your cabin was too small, unfortunately," he said, "but it had to do until I reached a store where they could fit me properly. This is the only suit they had that fitted me without alteration."

I wondered how he had managed to walk around the streets of New York without attracting a crowd, but then New York was accustomed to all sorts of strange people on its streets.

"Yes," remarked the man, "I did cause a stir. Of course, I had painted my skin to a semblance of white, and in the first pawnshop I came to, I sold several jewels to obtain money with which I purchased a pair of dark glasses to hide my eyes. But my size continued to attract attention, and several people made remarks about the circus in town." He laughed at the memory.

I could not quite accustom myself to the fact that this man could read my thoughts. From the first I had noticed that he had been aware of what passed through my mind. It was unnecessary for me to as much as ask a question; he answered before I voiced my question. Even now he was explaining:

"Reading another's mind is merely a science, my good sir. Your world is coming to it. The difficulty in my world is in keeping the other fellow from reading your mind. My friend here," and he pointed to Tor, "as well as my servant, have no trouble in reading what passes through your brain. I have had much pleasure in learning your reactions to us, but let me explain that human nature is much the same the Universe over, and any man of Abrui would react exactly as you have done under similar conditions."

His words made me rather uncomfortable, but the look in the smiling lavender eyes comforted me.

The Old Scientist

"AND now, sir," he went on, "would you care to accompany me on my little visit? I feel that I owe you some recompense for detaining you as my prisoner. Perhaps you will be interested in what is to come. The person we are visiting is Professor Ezra Rollins, a scientist that should hold the highest place amongst your great men, but he prefers to end his days in this deserted spot. Shall we go?"

I gladly accompanied him, my broken bone now completely forgotten.

My idea of how we had entered this craft was that we had come in through its glass walls. My kindly host now pressed a small lever that was fitted on his desk top. To my surprise a doorway opened where there had been naught visible but a blank wall. The door was simply a large square section which slid outward and now rested on the grass outside. "There are forty layers of glass here," explained Sa Dak. "Our glass, unlike earthly glass, is almost unbreakable, yet I do not like to take a chance on the possibility of a crack, hence the thickness, made up of plates set in layers, one over the other to several of your feet."

"No wonder I could not throw a stone through it," I laughed.

He grinned. "You gave us quite a bit of merriment in your attempts."

We walked over to the compound of the bungalow. Dogs were howling from their kennels, but none came to stay our progress to the front door. A cool night breeze was stirring. Somewhere off in the distance we heard a lion roar. Sa Dak knocked on the house door.

We heard the shuffle of feet. "What is it?" asked a querulous old voice.

"One who comes with a message."

"Then kindly come in."

The door was opened and I followed the silver man into a cosy little room, a much-lived-in room. A lighted lamp was on the table; the Professor had been reading. He was a little old man with the high smooth forehead of the savant, but his eyes were burned-out lights.

"It is a late hour to be calling, sir," said Sa Dak. "We saw your light and concluded you were awake."

The old man shrugged his shoulders. "I can not sleep. I can only wait."

"For a message?"

The old eyes brightened, then saddened again. "A message that can never come. I was once a scientist; but I committed the crime of sending two men to their

death. That deed awakes the dormant man within me, and awake now, I can never sleep again. . ."

"Yet a message would change all that!"

"No message has come."

"I bring such a message, Professor Ezra Rollins."

"You mean . . . why who are you? I . . . I . . . ."

"I come from those two, sir, from Dana Gleason and Richard Dorr. . ."

I have never seen a face and body change as did the wrinkled, weary face and stooping body before us. He was suddenly taller, younger. In a half a dozen steps he was across the room at a door through which we could see a flight of steps. "Elsie, Elsie," he cried. They are safe! D'y'understand? They landed on Mars! !"

THERE was movement in the room above our heads. The Professor turned to us again. For the first time he seemed to note the strange appearance of his nocturnal guest. "Did you, too, come from Mars?" he questioned almost fearfully.

The Abruian shook his head. "No, Professor, not from Mars, but from . . ."

He didn't finish his sentence, for the old man had fainted away before the sentence was completed.

The big man was on his knees by the Professor's side. He picked him up as easily as if he were a child and laid him tenderly on a divan close at hand. Then we were aware of a slender girlish form that had entered the room and rushed to the old man. "What have you done? What have you done?" she moaned. "You have killed my uncle!"

"He has only fainted. His heart is weak, and I erred in not speaking more carefully. Water, please!"

His calm voice reassured her and she hurried for a glass of water; but the Professor was already recovering. Tears commenced to flow down his cheeks. The other hastened to speak. "I am sorry, sir. I broached my subject poorly. Dana Gleason and Richard Dorr live, but the planet they reached was a more distant one than the planet you call Mars. They are both well and happy, and asked that I come to you with their message."

The tears halted. "I should have realized, naturally . . . you spoke of a message. I . . . I . . . can not stand too much excitement. Ah . . . the message . . . you have it?"

The manuscript was brought forth. Quickly Rollins was scanning the pages. "Ah, Dana's handwriting. Thank God, they are safe!"

He fumbled for his glasses and putting them on his nose, began to read. The girl with the glass of water still in her hand stood beyond the table. She was holding her dressing gown at her throat. I saw then that she was not so young as I at first imagined. Obviously, she had already passed her twenties; the bloom of her youth was gone, given without thought of self to the service of the old scientist. She was Elsie Rollins, niece of the professor. It is to her I owe the story of all that had gone before this date. When years had passed, she came to me in New York to help me in this work, and so together we compiled this record, giving facts and descriptions as we remembered them.

Professor Ezra Rollins had been a world famous figure not so many years before. When he let it be known that he was working on a vehicle that could carry a man to the moon; or better still, to our sister planet, Mars, he had been ridiculed until, in disgust, he left the college where he had held the scientific research chair, and had come to Africa to work unmolested by reporters, who had interviewed him only to laugh at him.

With him had come his several disciples who believed fervently in his theory. A mechanical engineer and a world renowned astronomer had joined him in his retreat, and for almost twenty years they had worked together over the plans, until at last the gigantic rocket that they were to shoot to Mars was ready. All that was needed was the man who would undertake the journey. It required a man of great daring and courage, a man who would be willing to sacrifice everything, even his life, in the hazardous feat. It needed a young man, a man of learning, an extraordinary man.

For two years Rollins had roamed through the cities looking for his subject, as he may be called, and at last he found him, a youth whose life's training seemed to have fitted him for this very deed. Dana Gleason, Jr., had finished in the War with great honor, but now he was at loose ends, bereaved of his father, with no friend, and a family of which he knew no member. He had done everything that man could do on the planet Earth, and he had become undeniably bored with life thereon.

Gleason did not jump at the chance to go to Mars. At first he thought the scientist was crazy. When he realized that he was in an extremely sane state of mind, that all plans had been developed, and that the rocket was there and ready, he agreed to consider the suggestion; and he considered it as soberly as such a proposition could be considered. He accepted the Professor's invitation. He waited only long enough to make a will and straighten up all his earthly affairs; thenceforth he was in Rollins' keeping.

"Ah . . . the message . . . you have it?"

Getting Ready for the Trip

IT WAS seven months before the rocket was to be shot into Space, for then Mars would be in perfect conjunction with Earth for the experiment. In that time Rollins taught the brave youngster of twenty-six years all he would have to know on landing on the red planet. Once there, he was to set to work to build a gigantic radio, a replica of the one which was stored in the attic of the Rollins bungalow, and broadcast his find to Earth. Then if he discovered intelligent beings on the planet, which was a probability, he was, with their aid, to get himself shot back to Earth!

Miss Rollins described Dana Gleason as being a slender young chap about five feet seven inches in height, with dark chestnut hair, brown eyes that were almost black and a fair complexion, regular features that were almost girlish except for a masculinity developed by the full life of a globe-trotter. He was a quiet person, little given to talking, with a throaty but well-trained voice. Only in anger would he become eloquent, and then his tones were rich, though not very deep. He seemed rather temperamental, given to moods that were affected by the elements—rain made him dreamy; storms excited him, bringing color to his cheeks; but the sun left him a quiet and serious person. When he spoke of his proposed journey in the rocket his eyes sparkled and glowed. On horseback he would roam for hours on the veld, and though he enjoyed the chase he seldom bagged any game. He was witty with a somewhat satirical turn to his humor.

He spent much of his time reading the heavy volumes that the Professor gave him, and he had a lively interest in the mechanics of the rocket. He made friends readily with the workers and scientists, asking questions, learning facts. His thirst for knowledge of all things was extraordinary. He would go on long walks with one of his new friends, or sit relating to them some of his own experiences, though he was never one to brag. And he never spoke of his wealth. His bearing with servants was such that he was greatly beloved by them. However, he never made any overtures of friendship to Elsie Rollins, preferring rather the society of men. He showed that he appreciated the fact that the girl had set him on a pedestal and admired him, and his attitude to her was one of consideration, but during the seven months of his sojourn on the veld, she was never one of his intimates. He had great respect for Professor Rollins and they became as true friends as the disparity in age would permit. He had one friend to whom he appeared to be drawn on sight. That one was Richard Dorr.

Richard Dorr was practically the only neighbor that the Rollinses had, aside from the inhabitants of the few native villages here and there. He was by profession a mining engineer, and somewhere in the hills was his gold mine, but on his word it was a poor sort, and he did not seem to spend much time there. With him had come the rumor of an *affaire de cœur* that had not gone well, and one could wonder, having seen him, how any woman could give him up.

He was tall above the average, broad of shoulder and graceful of limb, strong and powerful, with the face of a viking. His blue eyes were accustomed to looking over great distances. His hair was the color of old copper and crinkled and shone in the sun. His skin had been tanned nearly to the shade of his hair, so that he looked almost as if he had been cast out of reddish metal. He was a great humanitarian, and it was known that he was doing a lot to help the natives of Africa find themselves. All the servants within the Rollins' compound adored him. Out in the world he might have become a great leader of men.

At first he paid little attention to young Gleason. He noticed him no more than he noticed the other men around him. He and Professor Rollins were staunch friends and could sit for hours discussing the rocket around which the latter's life revolved. Dorr had given many valuable suggestions for it, and had been at hand to help during the casting of parts that could not be obtained in any market. He had known and played with Elsie since she came to the veld at the age of ten when both her father and mother died. She had seen the friendship grow up between Gleason and Dorr, and noted the many hours they were together.

Many evenings were spent in the little sitting room of the bungalow, with the three men reading and talking, while the girl sat in her corner mending and embroidering. Secretly she was initialing all of Gleason's handkerchiefs and shirts. Often the four sat down to a game of bridge. One night she surprised an expression she could not fathom on the face of Dorr as she sat studying the absorbed face of Dana Gleason sitting there reading one of the Professor's heavy tomes. It was an expression that she could not interpret and it puzzled her for many a day.

Then Dorr's visits became less and less frequent and days passed before they would hear the beat of his horse's hoofs across the veld. His absences were noted. Once a time intervened and a boy was sent to learn if he were sick. He returned with the answer that he was merely busy. And when he came, there was an evident surliness.

The time drew near for the departure. One evening Rollins faced Gleason. "In just six days, my boy, you shall go!" he told him, and Rollins' eyes shone brightly. There was no change of expression on the youth's face; there was only a new glitter in his eyes.

A messenger was dispatched to Dorr to apprise him of the fact. He came that night, and a quiet evening was spent. Not until he was ready to leave did he speak directly to Gleason. The Professor had gone into the kitchen for a glass of water; Miss Rollins was seated in the shadows, unnoticed.

"So you are going through with this?" Dorr had suddenly demanded of Gleason.

The other looked up in surprise. Then he straightened and got to his feet. "And what reason have you to believe that I should not?" he asked coldly.

"I had, or rather thought I had a reason, Dana Gleason, but I see now that I was wrong." And without another word he had gone out of the door. Rollins returned surprised that he had gone without a word of farewell.

This is an opportune moment to speak of the great vehicle that was to carry the youth on his way. Miss Rollins has described it to me and tried to make me understand the principle by which it worked. As I

said before, I am a layman and have little knowledge of machinery.

The Great Invention

THE machine was a great cylindrical thing eight hundred feet long and about fifty feet in diameter. Its walls were very thick and its nose was pierced through with great springs. It was of smooth steel and the only things to break its surface were four great windows, many inches in thickness, set in its girdle.

Within was a space hermetically sealed, in which were the living-rooms for the traveler. These were slung on springs which were set in slides in such a manner as to keep the chambers within on an even keel no matter how the shell might twist and turn. From the living quarters a passage led to the great windows, where small cells were provided for the observer. The living room was no larger than an ordinary chamber, fifteen feet by ten, and only seven feet high. The reason for the low ceiling was that once outside of Earth's power, there would be no gravity, and the inmate of the room would find himself without weight, perhaps floating about the room. By pushing against the ceiling he could draw and push himself about. For the same reason rails were set around the room at convenient heights, and the floor, walls, and ceiling were heavily padded. Chairs, table, and cupboards were all fastened to the floor, and a low padded seat the width of a bed ran around the entire chamber. Here the voyager would sleep. Pillows and coverlets were stored in the cupboards beneath the seat.

Beyond the living room was a small kitchen wherein was installed an electric stove, an iceless refrigerator, a cupboard for dishes, and a small sink. Food, in a concentrated form, and water were provided to last for almost a year's time. There was also a goodly supply of fresh foods. The rocket carried its own dynamo with sufficient battery to keep it running for several months. For the purification of the air, the same device that is used in submarines, which renews the air by absorbing the carbon dioxide by soda-lime, and purifying the air chemically was used. There were also tanks of fresh oxygen provided and by opening a valve this could be let into the room. Oxygen masks and portable cylinders were also stored, to be used if the traveler found he could not breath the air of the alien planet. Adjoining the living quarters was the bathroom with all its necessary fixtures; the medicine chest was stored with innumerable tubes of tooth paste, powders, soaps, et cetera, together with medicines for first aid. Nothing, Miss Rollins said, was missing. Below was stored a small dismounted airplane to be put together for use in an emergency.

The machinery that was to keep the rocket moving was set in the stern. Once released, powder was to be shot off automatically, causing explosions which furnished its source of power.*

The hour came. For the two preceding days the house, laboratory, and compound seethed with activity, and last minute preparations were made. Everyone was too excited to think, but Elsie Rollins continued to wonder why Richard Dorr had not made his appearance since the night he had spoken to Gleason so strangely.

The rocket had been slung long since on the giant catapult that would shoot it off, and there was much climbing of the ladder and last inspection. Only newspaper reporters were missing. Then there was supper, when all the mechanics, helpers, engineers, and scientists gathered together for the last time to pay homage to the valiant youth who was putting his life into the care of the God of the Void. Toasts were drunk to success, to the Professor, to one and all. It was a very quiet meal, though the Professor was in high spirits and there was a slight flush on the cheek of Dana Gleason.

The meal came to an end and Gleason retired to his sleeping room to gather his last personal effects. Miss Rollins had seen to it that his linen, his socks, and his handkerchiefs were all ready. He was also taking several suits of khaki. The last thing he did before leaving the bungalow was to stuff his pockets full of chocolate and cigarets, though several large cases were stored in the rocket. A number of cases of whiskey for stimulant and medicinal purposes were also provided.

It was just about time to start. The rocket was to be shot at exactly twenty-two and a half minutes after eight o'clock. How long the trip would take was not certain. Professor Rollins judged it would take about seven weeks. Of course, he had experimented with miniature rockets in a vacuum, but how fast the giant rocket would travel was conjectural.

There were the farewells, the last bits of advice were being given, the last round of handshaking was going on. Gleason leaned over and kissed Elsie Rollins' cheek gently and then he was climbing the ladder with the Professor, who had one more word to say. And so Dana Gleason, Jr., disappeared from the sight of men into the aerial vehicle. Rollins went in but reappeared in a few minutes and started his way down the ladder.

Then came the unexpected. All were too engrossed with the leave-taking to hear the beat of horses' hoofs and none was aware of Richard Dorr's arrival, until he had his hands on the ladder. In his hurry and excitement, he almost threw Rollins off his balance. Already Gleason was drawing to the great door, fitting in its socket like the breach-block of a cannon, when Dorr slipped within.

For another minute the door stood open, then slowly and ponderously it closed—just at the moment that

*Because of his lack of technical knowledge, the writer has failed to explain the fundamental processes by which the rocket, when once out of the atmosphere of Earth, could hold and increase its speed as it flew through Space.

First, one must take into consideration Newton's Third Law of Motion, i.e., "to every action there is an equal and opposite reaction"; that to push anything forward there must be a backward motion, just as a man in walking pushes with one foot backwards as he propels his body forward. In Professor Rollins' rocket, this push is given by means of a "kick" from an explosive powder. This powder is confined in a strong steel chamber capable of resisting the pressure of the explosion, and the gases thereof are ejected through, or driven out of the base of the cartridge through an expanding nozzle, a nozzle that resembles that of a steam turbine, and is designed to give the highest possible velocity to the gas. In this manner a great rate of speed can be obtained, each explosion adding acceleration to the speeding body.

At the "shooting" of each cartridge of powder the chamber is thrown off, so that those kept are full ones. This gives the rocket less weight, and consequently greater velocity. So with each ejection of the gas the speed of the rocket has a twofold increase; and though the machine can start at a comparatively slow rate, the nearer it is to its destination the faster it is traveling. On sighting its destination the traveler will then shut off all power, so that the rocket will arrive in the atmosphere of the planet traveling only on the acquired momentum, and an easy landing can be made.

On the rocket, weight, as it may be termed, would be greatly increased by the rapid acceleration at the start, but this was all calculated in advance and allowed for; the acceleration would also be under perfect control, being maintained by means of a time-clock at just as great a degree as the passenger could stand.

Professor Rollins placed his hand on the release lever. It is doubtful whether, in the high tension of that moment, he realized that a second passenger was on his way to Mars!

There was a deafening explosion, the force of which sent large pieces of machinery flying through the air, killing two mechanics, wounding several others, and all but killing the Professor. He was knocked unconscious and did not recover for many minutes, so that he was not an eyewitness to that awful departure.

PROFESSOR ROLLINS now looked up from his study of the manuscript the silver man had brought him. His face was screwed up into a grimace such as a child would make, his mouth trembling. "But . . . but this contains nothing but facts about this unknown planet," he muttered.

"Yes," said Sa Dak, "Dana Gleason has made a worthy survey of the planet. I find it complete."

"That is all right for the universities, but that isn't what I want, man. I want Dana's own story. What happened? What happened?"

The other smiled gently. "That is all there is, sir."

Tears came to the eyes of the old man. "And I want more. I want facts. I must know just what occurred, everything that took place, the story, the story. . . ." He looked up helplessly. "You say they are well and happy. How did they find this happiness and contentment?"

"It is a long story, sir."

"You know it then? You will tell me? You were an eyewitness?"

"Yes, I was an eyewitness. And since you insist, sir, I shall do my best. In my desk I have the diary of Dana Gleason; that may interest you. Will you accompany me to my machine, sir, or shall I bring it here?"

"We will go with you, only let's hurry!" cried the old man in his excitement.

"And you, Miss Rollins?" inquired Sa Dak.

She nodded, then remembering that she was not dressed for outdoors, asked that we wait a moment. She returned very soon, with a light coat on. We went to the *Yodverl,* whose glass surface was aglow with its inner lights.

My host and the Professor walked ahead. Miss Rollins and I followed. Sa Dak was trying to direct the eye of the scientist to the construction of the great vehicle modeled after the Professor's invention, but the old man paid no attention; he was intent on hearing the story. I told Miss Rollins something of my abduction, and she told me a little more of what had preceded that astounding departure. Soon we entered the vehicle.

Tor was there to greet us. Sa Dak explained why we were there, and then he turned to us. "Now," he said, "if you will accompany me through the vehicle I can demonstrate to you some of the devices which Dana Gleason and Richard Dorr found in use on Abrui. That will make the telling of the story easier for me."

The House of a "Neighbor"

I WAS beginning to feel a little weak on account of my shoulder, but, forcing it from my mind, I followed the little party. We went into the room in which I first found myself. "This," said our host, "is called the 'atol' or main living room of the Abruian home. Here is where the family gather to eat their meals and discuss the day's events. Here they greet their friends, here they start the day with their morning swim. The lowliest home possesses its swimming pool, its potted flowers, its scenic walls. The scene you see depicted here is typical of Abruin scenery.

"In arranging the rooms in my rocket, I have tried to reproduce exactly my home in Abrui," he continued as he led us to the next room, which proved to be a small reproduction of the first room, with a smaller pool, and fewer flowers. There were four small doorways, two in either wall, leading to bedrooms. The scene on the walls was that of a garden. A group of two or three women were seated on low stone benches under the shade of some low trees, and a short distance away, two men were practicing some knife play, each holding a short dagger in either hand with which he attempted to break through the other's guard. On another wall several children were seated in a circle, with the markers of some strange game in their hands. A golden slave-girl stood near by with a silver baby in her arms. A game of tag, played by youths of about fifteen or sixteen, was in progress among some shrubberies. Another slave was working in a flower bed. It was a happy life-like scene and the reproductions of the people of Abrui were very fine. I noticed that the costume worn by the women was exactly like that worn by Tor, while the children wore suits of the same style, somewhat abbreviated. One of the women wore a long flowing cape that fastened to the shoulder and reached to the ground. The colors used were of every shade and hue and some were unknown to us. The light that shone over everything was rosy and seemed to come from the overlarge pinkish globe that I had seen painted in the Atol, and had objected to. It was in truth the second sun of Abrui!

"This room," said Sa Dak, "is called the 'cof', and is the inner room of the house. Here is one of the bedrooms," and he brushed aside the curtains of one of the small doorways, revealing a small cell-like chamber furnished simply with a wide couch, a chair, a chest of drawers, and a long mirror. "In these rooms the family sleep, but this chamber is sacred to the women of the house. Here they come when not disposed to mingle with their friends, and only the family are allowed entrance. Here the mistress of the house carries on her affairs and directs the welfare of her house."

The next room we were informed was the kitchen, though at first glance it was no more than a small chamber with the walls of opaque glass. However, by touching a small lever close to the doorway, it was transformed. The glass covering opened out, revealing shelf after shelf containing various dishes. On one side was a glass-enclosed refrigerator and we could see the array of food placed within. All around the room projected a piece of smooth glass about two feet into the room. This could be utilized for the table. I saw neither stove nor any other means for cooking.

We were enlightened, however. Removing a small dish made of glass from one of the shelves, our host took from the refrigerator (which I call by that name, although there was no visible means for the preservation of food) a strange vegetable about the size of a grapefruit. This he dropped into the glass dish he held

in his hand. Immediately before our eyes a change took place. The food began to cook! We saw it soften, its juices run, and a delicious odor filled the room. In less than five minutes the vegetable was entirely cooked. Taking three small metal plates from another cupboard, our host then served the vegetable on the plates, cutting it with a knife of glass. Tor went for three spoon-like articles that had tiny prongs on their tips somewhat like our ice-cream forks at home. The vegetable was quite good.

TAKING another glass dish, the man poured into it some milk from a metal container and dropping into it several small pellets, he stirred it well, while we watched the process that was taking place. The milk had begun to freeze! When we ate it we found it was somewhat like ice cream, flavored with something that tasted like sweetened cinnamon.

We all marveled over these utensils, and our host went on to explain that the "cooking dishes" were treated with a solution derived from radium, which caused the food placed within to cook immediately. It was the same for the "freezing dishes." Only the inside of the dishes were treated, so that it was possible to hold them in one's hand while the change was taking place. The inside of the "refrigerator" had been treated in a similar way, but to a less degree than the dishes, so that foods could be kept indefinitely and still be edible. How my wife, who is quite a cook, would have envied such cooking methods!

"I shall now show you our 'stable,'" went on Sa Dak, and led us to a small chamber. Like the others, it was scrupulously clean. A low manger was arranged in one wall, and there were four of the prettiest little creatures I have ever seen. They were somewhat smaller than our cows, standing no more than three feet high, and looked somewhat like deer, with soft liquid eyes and faces that were dog-like. One was a "bull" while two had the large, developed udders of a cow. The fourth creature was no more than a calf.

"These are called muti. The little one there was born since leaving Abrui!"

The little creatures had looked up at our entrance, and in their eyes was an expression of intelligence that is never seen in the eyes of earthly cattle. Their master made some soft sounds in his throat, and there was response from the bull, who made a like sound. For a minute or two they continued and it almost seemed as if they were actually talking. "Yes," went on the man, "we have discovered the language of our beasts and make it a practice to converse with them!"

We showed our astonishment.

"And why not?" he continued. "Why should animals be denied the right of speech? Naturally, their intelligence is not equal to the thinking mind of man, but it is far better that they understand what is expected of them."

"How can you kill them then? It seems horrible to me to think of eating their flesh," observed Elsie Rollins.

The man smiled. "We do not eat their flesh, Miss Rollins! That is, civilized man does not. We know that fruits and vegetables are quite as strength-giving as meat. No, our muti are raised only for the milk they give. And when that supply is gone the animal is simply done away with in a manner that gives no pain. They know this, and understand that we treat them no differently than we treat ourselves!"

"You mean that when age comes you kill the old?"

"Is not that the better way? The aged are only a burden to themselves as well as to others. Their value to the state is nil. Only we do not kill! We go to sleep. We have discovered a ray that destroys animal life, dissolving the compounds that make up our bodies. This ray turned upon us does away with the body completely, the chemical compounds returning to their former state. There is no pain, no suffering. Only a last sweet sleep."

"And the soul?"

"Goes to its appointed place. Of that we do not pretend to know anything."

I could not but think how pleasant such an end would be. No suffering, no funeral, no grave, no tombstone.

"I would like to die that way," sighed the Professor.

I saw that Elsie Rollins was trying to break the spell that these thoughts had wrapped about us. Our host was quick to see this, and he now suggested that we return to the Atol where we could comfortably discuss life on Abrui.

"You will notice," he said, "that the ceilings of the rooms we have passed through are all of glass. It is so on Abrui. Every house is but one floor in height. The light from the two suns of the planet shines upon these roofs, giving daylight to the rooms. Again we use radium, which being a phosphorescent element, takes into itself the sunlight thus distributed, responds to it, and at night redispenses it, so that at all times we have an even glow of light. We find that people living under this light are greatly benefited. Disease is therefore completely done away with. It took many years to discover this use of radium, for radium in its raw state, as you must know, does bodily harm to anyone exposed to it. We also have the means of shutting this light off at will."

We had now returned to the "living room." The golden slave appeared, and was arranging several couches into a small circle, and we were invited to take our places there. Tor, the youth, had thrown himself on the floor on a pile of cushions, while our host drew up a chair that was standing near. My shoulder pained again and I appreciated the relief of repose.

At a word from his master the slave left the room and shortly returned, carrying a small black leather-bound book. Miss Rollins exclaimed: "The diary of Dana Gleason!" It was handed to her.

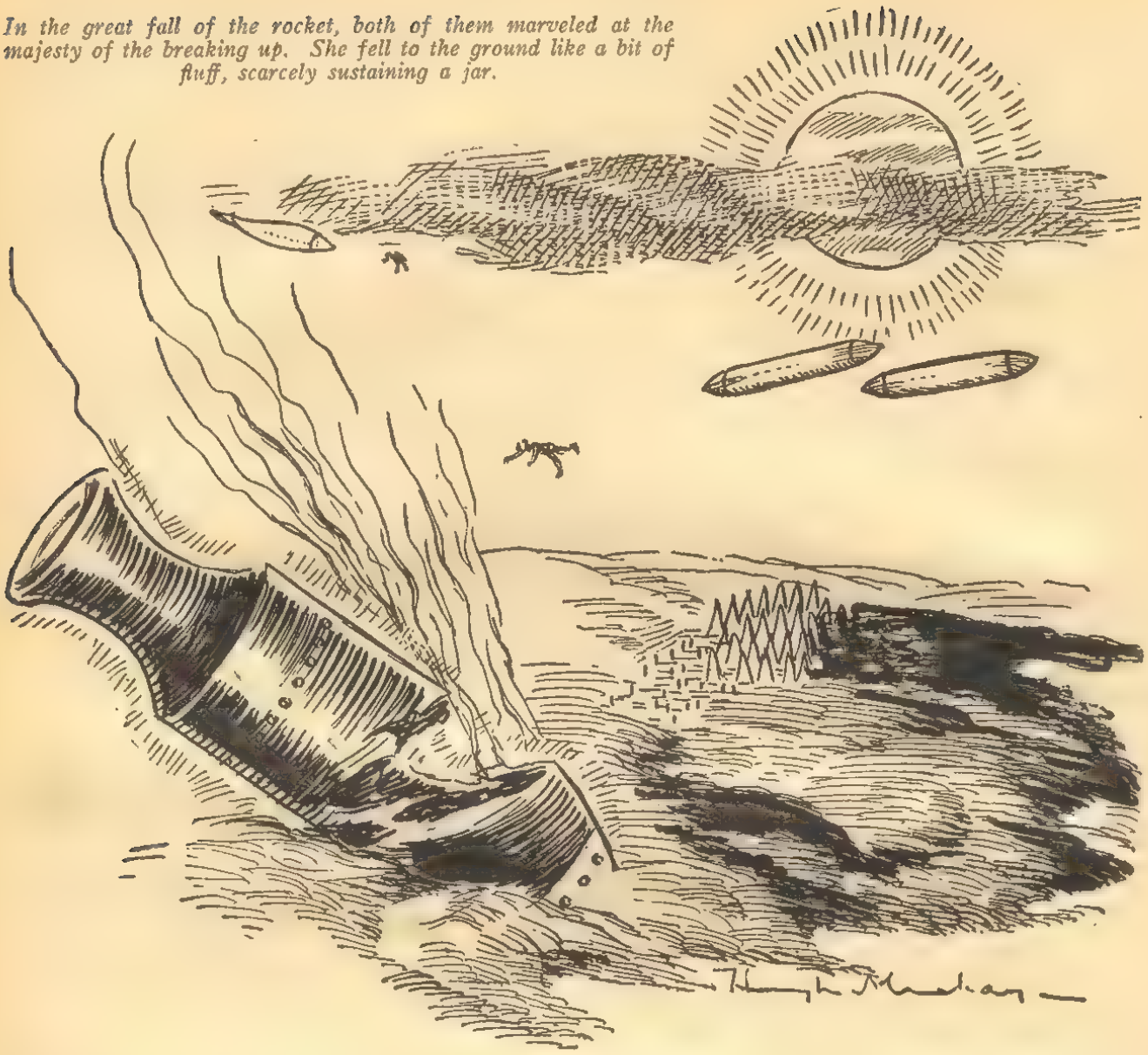
"Perhaps you will read a few of its entries for us; they may prove of interest," said Sa Dak. She was already skimming the pages.

"Why here," she said, "is the date on which Uncle Ezra first approached Dana with the proposition of his taking the trip to Mars!"

"Read it," said the Professor. Since entering the *Yodverl,* Rollins seemed a different man. He had gotten a new interest. He seemed younger and brighter. He was happy, perhaps for the first time since that fateful night.

The young woman acquiesced and commenced to read in a clear voice.

In the great fall of the rocket, both of them marveled at the majesty of the breaking up. She fell to the ground like a bit of fluff, scarcely sustaining a jar.



The Diary

"TO-DAY fate came to me in the guise of Science. At first, when Professor Ezra Rollins spoke of a trip to Mars, I thought him crazed, yet as he talked, his face alight with the fire of his passion, I realized how earnest and intense he was. He left me with my mind in a whirl. Shall I take this one chance in a million? Can I do it? Would Dad have done it? Had the Professor only known me for what I am, he would never have come to me, but haven't I proved myself equal to any man? Why can't I do this?

"I am sure Dad would have done it and he would have expected me to do it. To remain here on Earth can mean but one thing for me—exposure. Howard Courtland will keep his promise, even though I put the world between us, and I, born of woman though I am, can not and will not give up the heritage my father has given me. No man shall force me to admit that I am a woman-thing even though I was born with the body of one. . . ."

Miss Rollins looked up in wonder. Her face had gone white as she read and a low groan from the Professor showed that he understood. "Dana Gleason, a woman!" The three of us exclaimed in one breath and turned to our host.

He smiled somewhat sadly and there was sorrow in his eyes. "True, I had forgotten that you believed Dana Gleason a man. I am not certain, but I believe her father hated women and was resolved to raise his daughter as a son. This Courtland of whom she speaks had discovered the truth and would have disclosed her secret, thinking he could make her his wife. Dana Gleason is an attractive woman."

"A woman," mused Miss Rollins, "then," and her eyes brightened, "that explains many things I could never understand. Did . . . did Dick . . . Richard Dorr accompany her . . . knowing?"

"Yes, he knew."

"Read, Elsie, read what happened aboard the rocket," said the Professor impatiently.

"I do not feel quite right about reading this," she said.

The silver man shrugged his shoulders. "Dana wrote the story of her own experiences, and I fear I could not do the tale justice. I am certain she would have no objection to your reading it."

None of us thought to ask how he had obtained the little book.

Throwing aside her qualms, Miss Rollins hastily turned the page.

"Aboard the Rocket," it read.

"Mars is due ahead and Earth is behind us. For the first time, Man has stepped into the great unexplored vacuity—Space. It takes time for one to collect one's thoughts out here. Already forty-eight hours have passed and I can only now bring myself to write. Writing in this diary has become such a fixed habit with me, that to neglect it is like neglecting a dear friend.

"When I climbed the ladder for the last time I hardly expected what next took place, although I had looked for Richard Dorr among the friends that bade me goodbye. Six days before he had addressed me in an odd manner, believing that I, who had given my word, would back out before the moment of departure. I could not imagine what had made him think such a thing, knowing me as he did.

"The day had passed and at last I was ready to leave, forgetting Dorr entirely in my concern for the rocket. After a few more words and a warm hand clasp the Professor backed out, and I was ready to swing the great door that would seal me within, when suddenly Richard Dorr appeared at the aperture. In surprise I cried out for him to go back, for only a few minutes would elapse before I should be hurled on my way. Instead of obeying, he came toward me. 'For God's sake,' I cried, 'go, the minutes are precious.' He still came on with a smile on his face. Then he had his hand on the door and made ready to push it to. 'What are you doing?' I demanded.

" 'I am going with you!' he said quietly.

"I must have lost my head then, for I was commanding him to leave, even while I was fastening the bolts and pulling and adjusting the levers into place.

" 'What? Would you have me killed by the moving machinery?' he questioned and there was a twinkle in his eyes.

"I could say nothing, and then all conversation was cut short. Rollins had pulled the lever, without taking into consideration the fact that his friend was within. The shock of the explosion was terrific and we were both thrown off our feet. I had been thrown to the floor in a corner and a great pressure seemed pushing down upon me, so that I felt I should be crushed. It was almost impossible to take a breath, so tightly were my lungs compressed, and my ribs seemed strained to a breaking point—then a darkness swept over me. It was several minutes before I came to, feeling bruised and sore in all my body. Painfully I tried to sit up. I had known that something of this sort would happen, caused by the great shock of shooting the rocket, but I had not been prepared for anything as bad as this.

"LOOKING about I saw Dorr quite close to me. He was coming out of his stupor. I managed to sit up and he did likewise. Later he admitted that he had believed all the oxygen in the chamber had been forced out leaving us without air to breathe. Everything was working smoothly, however.

"As we left earth we had both slipped to the rear of the chamber as Earth's gravity tried to retain its hold upon us. That, too, passed; and we knew that strange sense of having practically no weight. We both started to our feet, and were unprepared for what followed. We were suddenly plunging toward the ceiling as easily as feathers. By putting out a hand against the ceiling we pushed ourselves downward to the floor and so gained our feet. Grasping one of the hand-rails we managed to keep there. Then by planting our feet firmly and using a swaying motion we were able to walk upright. I could foresee funny experiences to come.

" 'Well,' I observed quite superfluously, 'we are on our way, out of Earth's orbit.'

"Dorr shrugged his broad shoulders, and going into the bathroom, returned with a bottle of iodine and quietly painted a slight scratch on his hand.

" 'How did you fare?' he questioned, holding out the bottle.

"Impatiently I brushed it aside. 'Now, tell me why have you come?' I demanded.

" 'And if my reason does not suit, will you open the door and ask me to step "out"?' he queried with a grin.

"I could not help but laugh at such an idea, but I waited for my answer.

" 'Oh, I merely figured that two heads'll be better than one, Dana Gleason,' he answered.

" 'And the true reason? Surely had Professor Rollins known of your aspiration, he would not have had to seek me out. Kindly explain!'

"He lifted his eyes to mine. They were hard looking eyes. 'Less than six days ago I had no thought of this. I was heartily contented with my corner of the world. I did not then, nor do I now, approve of you or anyone else making this hazardous trip. One can die much more easily at home. However, that is neither here nor there. Professor Rollins is a friend of mine, one of the finest of men, with one of the finest brains in this world. I admire his courage just as I admire your courage, and it is in the interest of Rollins that I decided at the last moment to accompany you!'

"I was still not satisfied, for I knew that Dorr was not speaking the truth, and I could not be content until I was sure of his real purpose. 'Had Professor Rollins felt that it would take two men to make this trip, we would have recruited another,' I stated.

"He answered in a resigned tone. 'I have told you why, but since you require more . . . let us suppose that you do reach Mars. You are certain to find strange conditions there, perhaps wild beasts, wild men or . . . a dead world of nothing! True, you have considered all that, prepared for it, but you have forgotten one thing in your enthusiasm, Dana Gleason . . . Are you able to cope with these adversities? Are you . . . are you . . .?'

" 'Man enough?' I put in.

" 'That's just it . . . are you man enough, Dana Gleason?'

"It dawned upon me what Dorr was driving at. Somehow he, like Howard Courtland, had learned the truth. He knew me to be a woman! He nodded as he saw that realization in my eyes. 'Just that. Oh, yes, I know your records . . . I know all your courageous deeds, your researches, your science, your war experiences, your bravery. Yes, I know all that, but with it all . . .

you *are* a woman. You are brave, strong, great willed, yet you *are* at a disadvantage, and you are attempting a tremendous thing. How stupendous neither of us can guess. So I came, you see, with no ulterior motive. I simply came in the interest of my friend, Professor Rollins. . . . .'

"I couldn't speak for several moments, and when I did it was in a trembling voice. 'And knowing this . . . you didn't go to the Professor and tell him the truth? He would not have let me go, then. . . .'

" 'And break his heart? No, I saw that you were really going through with his plans and were the person for it. Henceforth, you may look upon me as your bodyguard!'

" 'How heroic,' I said with a curl of my lip.

" 'No, rather like a fool, I should say.' I liked his easy manner.

" 'Then, you count us both fools?'

"A smile came to his bronzed face. Impulsively I held out my hand and we gave a hearty hand-clasp. Together we would see our foolishness through.

"The room was quiet but for the hum of the electric motors and our voices. We are in a perfectly sealed chamber, where no sound can penetrate. We hear nothing of the timed explosions that are now taking place according to schedule, shooting us onward across space. I examined the various meters that showed our rate of velocity and our mileage. The oxygen gauge, the water gauge, and the electrical instruments showed everything to be working in proper order.

Viewing the Void

"I WAS now prepared to visit the lookouts, and invited Dorr to accompany me. We crept down the short passage and faced the windows. At first we could see nothing. We were in an inky blackness, for since there is nothing to reflect the rays of the sun, they travel onward to more distant bodies. Then far off we began to distinguish the things we call stars. Their brilliancy was almost blinding, for here there is nothing to affect their rays. Overhead the milky way glistened, and we saw the light of more stars than we had ever seen upon Earth. Directly behind us lay the Sun, a great flaming ball that was blinding. A little to the left, appearing as large though not as bright as old Sol, was Mother Earth. Near her hovered the good old moon, now only a darker blot against the dark side of the planet. In several directions, above and below, we could see the brilliant stars. They did not twinkle, but looked clearly back at us.

"After about an hour of this we returned to our quarters and I proceeded to take Dorr on a tour of inspection of our quarters. Then finding we were hungry we sought food. There were enough fresh foods to last perhaps three weeks—if the refrigeration held out. And there was a quantity of perishable foods that would hold without refrigeration for awhile. We dined on a young fried broiler that I knew thoughtful little Elsie Rollins had prepared for me. I found a number of jars of jam just as thoughtfully placed there for me. What wonder would be reflected in her brown eyes if she knew that the 'hero' she has been worshiping all these months was of her own sex. Had I been of different stuff I would have confided in her all my hopes and desires, my joys and disappointments, but I am not womanish or mannish enough either, to indulge in such a pastime. Never having had a confidant, I should not know how to confide. Only this little book knows me for what I am. How the devotees of the daily papers would revel if they could read this volume! How anxiously they used to seek 'copy' from Dad and me. I only trust that Mars knows nothing of yellow journalism."

So ended that entry. The next was made three days later.

"Seventy-two hours have passed. I can't count by days, for day and night are all one to us. Even in our lookout there is no change in that darkness about us. We eat, sleep, and awake by the clock. Several meteorites passed a few hours ago—great masses falling, ever falling. Do they ever reach 'bottom'? In the look-out I feel as if I were trespassing upon the domain of the One who controls this great illimitable sameness.

"Dick and I share alike in all the chores aboard our 'ship.' We have arranged to take turns at arranging meals, each vying to make his or her meal the most appetizing, and at the same time conserving the fresh foods. Of dish-washing we make a great ado, jealously attempting to prove our individual superiority in the feat. We are both reading the heavy books with which Professor Rollins so thoroughly stocked the cupboards—books that teach us even more about what we are to expect on Mars. When the hour grows late and we are weary, the pillows and coverlets are brought from their places. We lie down after first removing our boots and loosing our belts and collars. We sleep thus fully clothed, for as Dick says, 'One can never tell what pranks the Void might play upon us, and we want at least to be dressed and ready.' Then, smoking our last cigarets, we toss a coin to see who is to turn out the light. We leave only a small light burning in a shaded reading lamp for an emergency.

"How thankful I am that Richard Dorr elected to join me. How drear the hours would have been alone. And it is surprising how much fun can be had in our tight quarters. How surprised our friends, with whom we have gained reputations for being staid and serious, would be. Yet it is through the means of play that we forget the vastness outside and the meagerness of our chance to live!

"Our instruments show that we are now traveling at the rate of fifty thousand miles per hour! We are already seven million and two hundred thousand miles from earth. In another twenty-four hours we shall be traveling several thousand miles faster, for as each magazine of powder is shot and its gas ejected we gain velocity. Sitting down with a paper and pencil I calculated that we should average sixty thousand miles per hour throughout the entire trip of thirty-four million miles, which is the present distance of Mars from Earth. It will, therefore, take us exactly twenty-three days thirteen hours and a fraction to reach the red planet. Professor Rollins had computed that it would take us at least thirty-five days, but of course he was not able to judge just how swiftly the rocket could travel!"

The next entry was made ten days later.

"IN approximately nine days more we shall land upon Mars, if we do land. Never have we allowed ourselves to forget that word 'if.' These days have been pleasant in the company of Richard Dorr. He has proven himself a perfect companion. He is a well-versed man with a fine working knowledge of people. His love for his work helping the natives of Africa was sincere. What a pity that it is all over and that such a man is lost to Earth. I, who have led such a worthless indolent life, seeking only my own pleasure, pitting my own strength and mind against that of man, proving to myself that nothing is impossible to me, am a poor sort of a person beside this man, who has always given himself in behalf of his fellow-men. I see now that I have shirked my duty as a woman in the guise of a hater of that sex. And what crude stuff I am made of compared to this man who gave up his life work in the interest of a friend.

"One has much time out here in the Void to think of the past. God! Are we to live? Shall we ever see grass and trees again? Shall we ever see sun on the water? Shall we ever know the glory of a storm again? Shall I be allowed to begin a new life? I can only feel the appalling minuteness of man who tries to place himself on the level of a God who can create this bigness. How scornful He must be of us! Have I been right in hating my mother as my father taught me to do? Is it not possible that he was at fault also? Are they somewhere watching?

"Now we see due ahead the red eye of Mars. In size he has become as large as the sun appears to us from Earth and glows with a copperish light that is strange and awesome out here in the blackness. Hourly Earth has dwindled, a dark brownish globe (we see only its dark side) with its one moon. Beyond lies the sun, red and fiery, with never a setting. Far below and above, all about us are the lights of distant constellations, some appearing blue to us, others green, and so for all the colors of the spectrum. One star glows with a beautiful violet light! How strange it must be to have a green sun lighting one's world! We passed a number of meteorites today, and we feared that one particularly large one would surely hit us. We passed by ere it reached our path.

"What God, what Mind could have conceived this terrible greatness? Is He laughing at us here in our tiny atom traversing this God-place? Does He pity us in our fall? Does He look with wonder and amazement at His creatures who so boldly dare? Or did He plan this eons ago, and is He merely watching intently now as we go our fated way?

"Dick and I were discussing this, but he knows no answer. His belief in a God, a true God who sees the sparrow fall, can not be shaken, and I, who have been taught to laugh at men's belief in God-things, am shaken. Can one look on these vastnesses, these great worlds, and doubt?

"We are now traveling much faster than I ever believed possible. At every well-timed explosion we gain velocity, and with each discharge of the magazine and the lightening of ton after ton, the rocket shoots ahead —like a hound from hell (Dick said that). At this rate we shall reach Mars earlier than my schedule. Even as I write the red planet comes closer. It lies above us, or so it seems, but I am sure we head directly for it."

Twenty-four hours later:

"EARTH is behind while before us Mars looms hugely. Its strange spots and markings are very clearly defined. The lines that are believed to be canals pass black and wide across its face. We wait breathlessly as we draw near, leaving the look-out chambers only long enough to eat. Today we ate the last piece of meat, rashers of bacon."

Sixty-hours later:

"GOD has answered! We are passing Mars! For many breathless hours we were uncertain, but now Mars lies not in our path, but away thousands of miles to our left. I can not think. I can not talk. Only by putting down these little black words can I remain calm. Dick has nothing to say. He sits with me here before the window smoking his pipe. This is the end. We have shot our bow and we failed. Could there still be a possibility that Mars will reach out and draw us into his orbit? Therein lies our hope. Still, he is senile, his strength has left him.

"For hours we watched Mars draw closer until we thought we saw grass and trees. We put everything in readiness. One pull of the lever and the gauge that controls the powder charges would have closed. Proudly we would have swung in line with the great planet. We inspected everything, saw that nothing was forgotten from rifles to pick-axes. I gathered together all my data, the blue prints for the giant radio set and for the loading of our rocket. We stuffed our pockets with chocolate and cigarets. But Mars disdains us. There is no welcoming pull of gravity, the instruments show no change. Is there still a chance that we might land on Mars. Perhaps a slim bare chance.

Two days later:

"IT is true we have completely passed Mars. He lies there slowly swinging in Space. How long we can travel we do not know, perhaps a year, or even two. It will be all the same, ever falling, falling. We will be caught like rats in a trap. There was but one chance in a thousand, a million, and that chance failed us. Yet, there remains one last hope. Another planet may accept us. But what will be our fate?

"Jupiter? He is yet too young. Saturn is older, but could he sustain us? Neptune? He is so poorly warmed by the sun. And there is distant Uranus. Beyond that, what?

"Still, why should I complain? Did I, in losing a world, not gain something else, something more precious? Who could have said that Dana Gleason should be happy in discovering her womanhood? Oh, the irony of it! On Earth I was not ready to recognize the chance. Now. . . .

END OF PART I

that any move on his part in that direction would be met by rebuffs. A hint dropped to Mr. Henley one day had elicited nothing but a hurried and ill-concealed anxiety to change the subject.

Austin gave up definitely the idea of questioning his mother, partly because he felt very sure that she was at the bottom of the conspiracy and partly because he loved her dearly and shrank from the thought of causing her pain. She was a fragile dark-eyed person with white hair, a quick eager manner and tiny soft hands that were always reaching for him with caresses. He admired her as greatly as he loved her.

An inkling of the truth came to him in quite an unexpected manner. During his mother's absence in New York one rainy day, and while Mr. Henley was writing some letters in his room, Austin stole down to the sloop unobserved by the rest of the household, cast the boat loose, hoisted the sail, and stood out into the open Sound in a brisk north-wester with his eyes on the distant Connecticut shore line. He was a good sailor, and he had learned to handle the little craft with the skill of a veteran, so the increasing of wind did not disturb him. He merely took a reef in the mainsail and went on. He had no definite idea of where he was going. He merely felt the immediate need of the open, of wind and rain sweeping down upon him from illimitable spaces.

It was not long before he noticed that more clouds were gathering in the north. He wondered if a storm was coming up and in the same breath hoped that one was. He felt elated at the thought, curiously light, and free from restraint. Tiller in hand he watched the green seas come tumbling along the rail as the sloop heeled to the pressure of her sails. She clove the crested seas, shaking the spume and smother from her bows at each leap. Spindrift lashed his face. He shouted with exultation.

So engrossed was he with his newly-acquired freedom that he did not notice the rapid foreshortening of all horizons, the shifting of the wind and the blotting out of the land, forward and aft. An hour later, after tacking about double-reefed in the teeth of the gale, he was forced to give her sheet and run off free. Another hour and he knew that he was being blown out to sea at the rate of ten miles an hour.

He was not frightened. His elation at his new-found liberty left no room for fear. For the first time in his life he was going about the business of living independently. He felt like one who had claimed at last some long deferred birthright.

After six days of knocking about the Atlantic with a box of sea-biscuits and a small breaker of water as the only food and drink, he was picked up by a Gloucester-man returning homeward, full to the deck with halibut. He slept in one of its bunks nearly all the way back to Gloucester while the sloop was towed astern. He was completely exhausted. The exhilaration was gone. His body seemed in the grip of some monstrous apathy from which he was unable to rouse himself. Even after being drenched with sleep he felt a curious disinclination to stir.

The authorities at Gloucester communicated with his mother at once. She arrived in her car, accompanied by Doctor Goldwin and Henley that same afternoon, with terror in her dark eyes, which Austin searched his tired mind in vain to account for. He had expected a scolding but none came. Doctor Goldwin gave him one of the orange-colored capsules and the four returned, a silent party.

Austin had never seen his mother so tender before. She cried nearly all the way down the coast. She took his face between her small soft hands and searched his eyes with a sort of breathless intentness that puzzled him. He tried to respond to her caresses, but they left him cold and apathetic. He was conscious even of a slight feeling of nausea at her demonstrativeness. He glanced at Mr. Henley for an explanation of this extraordinary phenomenon, but the tutor averted his face as if loath to meet his questioning eyes. Drowsiness overtook him at last. He sank back in the cushioned seat and slept.

WHEN he opened his eyes the next morning he found that he was in bed in his own room. He lay for a long time trying to review the happenings of the last ten days but his brain refused to respond to any orderly survey. He felt no desire for anything except to lie prone, but he did not get any feeling of rest or relaxation from the thought of remaining in bed. He glanced about the chamber. He had a momentary illusion of being in a strange room. Even the most familiar object seemed remote and unreal.

He was conscious of being thirsty, but it took him several minutes to make up his mind to arise and search for a glass in the bathroom. As he passed the cheval mirror on his way back to bed he caught sight of himself therein and paused, blinking at the image he saw there: a sallow face with lacklustre eyeballs set deeply in narrowed slits. He ran his fingers through his hair as if by this motion to brush away the vision that confronted him in the mirror and noted that his hair felt curiously dry and brittle to the touch.

He stood staring at himself for some moments, then crept back to bed. He didn't understand what had happened and his mind was too tired to grapple with the problem. When the nurse brought him his capsule fifteen minutes later he swallowed it and said nothing.

During his convalescence he tried to screw up courage to get out of bed and look at himself in the mirror, and when he finally did get the courage to do so at the end of the second week, he saw there a well set-up youth with clear blue eyes, soft wavy hair and a healthy ruddy skin. He decided that he had dreamed that other image.

When he was twenty-two years old his mother died. The day before she had been well and happy. They had motored to Montauk Point and had lunched at a wayside inn. Upon returning she had complained of a slight headache and had retired early. The following morning, Elaine the maid had gone into her room to awaken her and had found her lying dead upon the canopied bed with her white head thrown back and her small hands clutching the silken covers. She had scarcely stirred. Death had been instantaneous and except for the tightly-closed hands, there was no evidence of pain or struggle. Her heart had simply stopped.

Austin was left in a daze by the unexpectedness of it; and the confusion of the household robbed of its governing hand, added to his misery. He stayed beside

her until Doctor Goldwin arrived and ordered him to leave the room. Even then he could hardly tear himself away. He gave the still form on the bed one last look and stumbled downstairs after old Sims, then outdoors and down to the sloop.

He sailed on the Sound that afternoon, his mind a blank. When he returned he found that they had taken her away. Her room had been made up. He wandered about its crypt-like emptiness and touched her things one by one. On the dressing table there was a small silver casket containing a few long strands of white hair. She had told him laughingly one day that she was saving them toward a switch for old age. He touched the strands lightly with the tips of his fingers, now. They seemed still a part of her living, fragile self.

He opened the door of the clothes closet. Doll-like dresses hung there in orderly rows and a dozen pairs of tiny Cinderella slippers stood against the wall. Her warm eager personality seemed to be expressed in every pair, to be lingering in every last fold of each dainty garment. He wanted to gather them up in his arms, and take them to some secluded spot and cry over them, but he couldn't cry. . . .

A week after the funeral there was a meeting in the library between several men. With the exception of Dr. Goldwin all were strangers to Austin. The will was read by a heavy-faced man with a porcine brow and a flattened skull about which a fringe of coarse iron gray hair rode like a misplaced halo.

Austin listened, abstractedly. He gathered from the stilted, legal phraseology that he was the only heir; later that the heavy-faced man whose name was Stoddard, and who seemed to be a distant relative of his dead father, had succeeded in getting himself appointed by the court as administrator. In the discussion that followed the reading of the will, Austin discovered that his mother had lived far beyond her income for years and that the estate was heavily incumbered. The man Stoddard informed all present in somewhat pompous tone that he would do his best to save what was left of the Crane fortune.

Austin looked at the speaker and said nothing. Finance was a closed book to him, and an instinctive distrust of the man kept him silent. After much arguing pro and con it was decided that the servants were to be discharged, the heavily mortgaged house offered for sale and that Austin was to live with the Stoddards in New York until other arrangements could be made.

THE men gathered up their legal documents and brief cases and left. Doctor Goldwin alone remained. When the sound of their motor had died away in the distance the physician stopped pacing the floor and said:

"I'm going to tell you something, my boy—something that ought to have been told you long before this."

Austin felt a shock pass through his body as his eyes met the serious, kindly ones of the old physician bent upon him searchingly.

"Yes?" he replied, breathlessly.

"You have wondered often about certain things—I refer particularly to the medicine?"

Austin nodded. He gripped the arms of his chair. He was on the brink of a momentous discovery. The realization of it made him inarticulate.

"I am going to tell you what I consider necessary for you to know," the physician went on; "against my advice your mother kept it from you. I tried to make her see her error and to make her realize the danger she exposed you to by keeping you in ignorance of certain things but she wouldn't listen. Women are that way. Sentimental and unwilling to face the truths of life." He paused and glanced at the white face staring up at him from the depths of the cushioned chair. "There's nothing to be frightened at, lad," he said, "pull yourself together and listen to me."

"I am listening," Austin replied with an effort to keep his voice steady.

"Do you know what a CRETIN is?" the physician asked.

Austin shook his head.

"I am not going to go into obscure medical terminology that would only confuse you. A cretin is a man or a woman in whom, from some pathological defect, the cause or origin of which is as yet unknown, a certain gland functions improperly or not at all. By administering extracts of such a gland taken from animals, the missing ingredients can be supplied artificially and with the identical results attained in nature's most wonderful laboratory, the human body."

"You were born a cretin. This need not frighten you. There are thousands of them. We rub shoulders with them every day, but no one except the most intimate members of their families know it. They are being constantly watched and supplied with the missing ingredients which keeps them normal and healthy. It is only when deprived of these through ignorance or by not being themselves informed about their affliction, that the tragedy of retrogression occurs."

"What d'you mean?" Austin asked, breathlessly.

"I mean that they will return to the cretinous state if the supply of glandular extract is cut off or withheld. The retrogression begins almost at once. Even in a few days there is a marked change. The pulse becomes slow, the mind sluggish. The body begins to shrink, the features change, the skin becomes dry and sallow and the hair brittle. If you could have seen yourself four years ago when we brought you back from your attempt at crossing the Atlantic in the sloop, after being deprived of your medicine for ten days, you'd know what I mean."

"I did see myself in the mirror of my room," Austin replied in a small, tense voice.

The physician started.

"And you've been carrying that picture in your mind unexplained ever since? You poor lad."

"I—I thought that I dreamed it—afterwards."

"I see. I understand. The recovery when the extract is again supplied is as rapid as the retrogression."

Austin was silent. The answers to a thousand questions crowded into his mind at once. But one question was still burning there unanswered.

"What would happen to me if this medicine was cut off entirely and forever?" he asked.

The physician held up his hand in protest.

"The picture would be too unpleasant for me to paint and for you to contemplate. Remember what you saw in the mirror four years ago and imagine that magnified a hundred fold? But there is no reason to fear

its supply being cut off. It is easily accessible and not particularly expensive. I merely tell you all this for your own protection and to warn you not to be without it anywhere for more than twenty-four hours."

Austin Crane's Readjustment

HIS life with the Stoddards in New York was a series of adjustments and compromises for Austin. Hitherto the world had revolved about him; now he found himself suddenly in the role of satellite. From the position of prince royal with every whim or wish anticipated and gratified, he had descended at once to the level of commoner. At home someone had always stood between himself and the realities of life. In the Stoddard mansion on upper Fifth Avenue, no one seemed to care what he did, nor when or how he did it. The most ordinary things which every man does for himself as a matter of course in the daily prosecution of existence, presented themselves as problems to Austin.

At first he was confused and unhappy but gradually his untrained mind began to adjust itself to the new manner of things. Little by little his dormant faculties began to react to the new influences and responsibilities. Each experience was a draft upon his resources that must be honored at once. It became a game, a fascinating sport, with his soul and integrity as the stakes.

He was quick to learn. He did not know that within the human brain lies the knowledge of all things, and that only by contact with problems this knowledge comes forth. He merely knew that he must learn or perish. He was confronted with problems which boys of ten had assimilated before their milk teeth were gone. His twenty-two year old mind bridged the chasm in an instant. There was nothing to unlearn. His brain sensitized to receive whatever might come its way, was like a virgin phonograph record awaiting the recording needle.

The Stoddard household puzzled him. His dislike of the man Stoddard was deep-rooted and it increased as time went on. He had never encountered a human of predatory habits before. There was no precedent to guide him. His distrust was instinctive.

There was a Mrs. Stoddard, a florid coarse woman as heavy as her husband, with prominent china-blue eyes and a great pile of over-bright yellow hair which in spite of its elaborate dressing, always seemed in imminent danger of tumbling about her ears. Austin encountered her rarely except at mealtimes. She ignored him utterly. For both circumstances he was thankful. When she ate, her tiered chin reminded him of the pouch of a pelican. She seemed to divide her time equally between her suite of rooms in the east wing of the big house and her showy automobile.

The Stoddards were childless but there was another member of the household whose exact status Austin was unable to determine. Her name was Ann Barrett and she seemed to occupy the position of a servant, who was displayed as a poor relation only at mealtimes or when company was present for the sake of appearances. She also was a distant relative of Mr. Stoddard and had become indigent it seemed shortly after joining the household. She was a quiet, self-effacing creature, who rarely spoke except when addressed, and whose brown eyes Austin caught now and then regarding him with a sort of repressed warning across the table, or when he encountered her in the dim, cavernous hallways. He had the curious feeling that she was forever on the point of telling him something, but that she was not sure whether she ought to.

Altogether it was a strange household. A person of experience would have been warned, but in Austin's limited contact with life he had not yet encountered knavery. He felt merely a sense of restlessness and depression that was accentuated by the tomb-like air of the big house. Even the servants were aloof and impersonal, not like old tender-hearted Sims and friendly, garrulous Culp. The only person he felt anything in common with was the girl Ann. He was unable to account for this feeling, but there were times when he wanted to take her aside and tell her about his mother. At such times he wondered if her hands were soft and cool like his mother's.

Once a month he called at Doctor Goldwin's offices for a fresh supply of his medicine. He always looked forward to these visits. They talked about his mother and the old place on the North Shore of Long Island which the doctor informed him was being subdivided into suburban lots by the Stoddard Development Company. On one of these visits, Austin asked the physician if Stoddard knew of his affliction.

"No one knows about it except yourself and me," the physician replied. "You mustn't think of it in the terms of an affliction. If anything, you're a grade above the average, both physically and mentally. There's no reason why you shouldn't live a long and useful life. What you need is an interest. Get that and forget the other and you'll be happy."

He went to his desk and opened a drawer from which he took a slip of paper.

"This is the prescription for your medicine," he said. "I meant to give it to you last time you were here, but I forgot. You will find the address of the laboratory that prepares it on the reverse side. Don't lose it. In the event of my death, they'll supply it to you direct."

Austin gripped the arms of his chair.

"But you're not going to die—soon," he said in sudden panic.

The physician smiled.

"I hope not. But one never knows." He paused and regarded his frightened young visitor sternly. "You must stop depending upon others, Son. Go out and mix with people. Make friends. Go into some sort of business, or learn a trade or a profession. Get away from yourself. Learn to love work, and to—love," he added.

"I—I will," Austin replied, as he folded up the slip of paper and put it in his pocket.

FOR days he thought about his talk with Doctor Goldwin. At home on Long Island his mother had set aside a small plot of ground for him for a garden. He had loved this little spot. On summer mornings he would awaken while it was still dark and lie waiting impatiently for the sun to rise, and then bolt his breakfast and hurry down to see how much his plants had grown during the night. He had felt an immense responsibility for their welfare. When a Spring gale

broke one of his young trees he had wept over it for days. A month later new shoots had appeared below the break and the wound was healed over with rosin. On all sides he saw the constant feverish effort of all loving things to create, to perpetuate themselves against great odds.

"Learn to love work and to—love," Doctor Goldwin had said. It was odd that, with this sentence running through his mind, Austin should think of Ann Barrett. When he met her in the halls, he felt the impulse to gather her in his arms. Somehow, she seemed to hold within her small, compact body the joy of creating, the promise of perpetuation.

He felt vaguely ashamed of himself. He was infinitely better equipped for battle than the poor broken tree.

The months that followed were busy ones for him. His talk with the physician awakened in him a desire to know all about himself and the world into which he had been so suddenly projected. He spent his days wandering about the city, observing what men had done while his mind had been asleep. He spent his nights in reading and study. His ability to assimilate was as great as his thirst for knowledge. He saw, noted, and mentally digested.

He had been with the Stoddards a little over a year when the first inkling of disaster came to him. His monthly allowance was cut off. Stoddard explained to him in the library one evening a week or so later that due to unfortunate conditions over which he had no control, the remnants of the Crane fortune had been swept away.

"You mean that I have no money at all?" Austin asked.

Stoddard replied that because of his mother's mismanagement such was the case, but added magnanimously that Austin was welcome to the hospitality of his roof until he could find something to do. Austin glanced at the mottled face of his distant relative. The man's small furtive eyes seemed to flit about the room as if in an effort to evade his own. The young man wondered if the documents which he had signed now and then at Stoddard's request, during the past year had anything to do with the loss of the money.

He went upstairs without a word. He had seen enough of poverty in his wanderings about town to make him thoughtful. Beggars had stopped him now and then with hands outstretched for alms, depressing-looking, slinking creatures in soiled garments into whose trembling palms he had dropped coins. The thought of what might become of him, if there was no money for his monthly supply of medicine, made his brain reel. He clutched the bannister for support.

At a turn in the dark hall he was confronted by the girl, Ann. Her finger was raised to her lips in an admonitory gesture.

"I was listening," she whispered. "I heard what he told you in the library. Oh, why didn't I warn you long ago? He stole my money and now he has stolen yours."

Austin searched her face in the gloom. His mind was so full of his own problems that the significance of what she told him did not impress him at once.

"He stole your money?" he reiterated.

"Yes, yes. The court made him my guardian after my father's death ten years ago. I'm doing the work of a servant here while they live in luxury on my money."

Austin drew a deep breath. His distrust of Stoddard flamed into suspicion, then certitude, in an instant. He looked down at the small face upturned to his in the darkness. Pity for her made him forget his own problems. She seemed so small, so abandoned. He did not know how it happened but somehow their lips met, and at that moment life with its infinite possibilities was opened to him. He kissed not only her lips but her eyes and her hair, and when he finally released her, frightened at his own vehemence, she did not run away. They stood looking at one another as if a miracle, which their senses could not credit, had been performed before their eyes.

Then, at a sudden slamming of a door behind them, the girl turned and fled down the hall in the direction of Mrs. Stoddard's suite.

Dinner was being served when Austin entered the dining room that evening. Neither Stoddard nor his wife as much as glanced at him when he took his accustomed seat opposite Ann, but he caught a quick interchange of looks between them as he unfolded his napkin. The girl raised her eyes to his for a moment, then dropped them again, hurriedly.

He ate mechanically and with no thought upon the food. Stoddard's conversation with his wife was monosyllabic as usual, and he consumed his food with noisy indelicacy. His smooth, flat skull gleamed dully in the soft light. His heavy face had the peculiar mottled and flabby aspect of a toad's belly, and the toad-like effect was further accentuated by the short neck upon which his head was thrust forward, slightly in advance of the rest of his body.

He never seemed more repulsive to Austin than at this moment. The young man felt a sudden impulse to arise and denounce him and to sink his fingers into the bovine neck. The only thing that deterred him was the warning glance from the brown eyes at the other side of the table. They seemed to say:

"Not yet! Bide your time. Plan; think!"

He slept not at all that night. His brain was seething with vague plans and half-formed ideas. He had no definite notion of what he intended to do. He only knew that the girl's kisses still burned on his lips. For her sake he must find a way to bring Stoddard to account.

Crane Secures Employment

IT was with this thing in mind that he approached Stoddard the following day with the request that since he was now penniless, he might take him into his office to learn the real estate business. Stoddard regarded him in heavy-lidded silence before replying, then said:

"I'll give you a try-out. But mind you, no foolishness. You've been pampered all your life. I don't pamper my employees. I'll give you a note to Kraft, the office manager. Report for work to-morrow."

Austin found Kraft a medium-sized, very blond man with a bulging forehead, prominent glassy blue eyes and a nervous, jerky manner. He was known among his business associates as a booster. He was always "on his toes" about something, even if that something

was merely an order for new typewriter ribbons. He expressed himself in detonations; his simplest remarks were minor explosions. He prided himself upon a brisk and business-like manner; he was merely a gatling-gun firing an unceasing barrage at some spot, the range of which was uncertain, but which he hoped to hit by the simple law of averages. It never seemed to occur to him that by purchasing a range-finder he could have saved himself a lot of ammunition.

He put Austin to work as a file clerk, not because he needed one, but because Stoddard had told him to create this position. The files of the Stoddard Development and Realty Company were like all concerns of this kind: a simple record of sales made and of property listed for sale. They were consulted only upon enquiry from some customer answering an advertisement or to compute Mr. Stoddard's very large income tax. The Stoddard Company were specialists in their line, "Realtors of the Better Kind," was Mr. Kraft's slogan. They handled nothing but large business properties and development projects running into six or seven figures.

Austin's clerkship consisted merely of half a dozen trips a day to pull a card from the files and bring it to Mr. Kraft's or Mr. Stoddard's desk. The balance of his time was taken up in running errands about town. These errands were many and varied, such as taking documents to the Recorder's Office, making deposits at the bank, carrying papers to and from the title companies, delivering leases, serving vacating notices, putting up rental placards on vacant properties and "For Sale" signs on empty plots.

He began to get some insight into how modern business was conducted. He learned, observed, and paid close attention. He knew that he was holding his position at the Stoddard firm on sufferance only, and that Stoddard was watching for a slip as an excuse to discharge him, so he executed his commissions with diligence and attention to the minutest detail. His time was limited. Sooner or later the axe would fall. He watched every move of the firm. Nothing escaped him. He knew that an outright monetary reprisal was out of the question. The firm's business was done almost entirely by checks, and the limited amount of cash in the office safe was not worth his while.

He found that Stoddard did a good deal of trading on his own account in high grade bonds and stocks. Also that the firm was not always overscrupulous how the offerers of them had come by them, as long as they were negotiable or bearer certificates and the price was right. In one instance he had been sent to the bank to cash a large cheque. The money, some four thousand dollars had been given to a hard-looking individual who had been in long and earnest conversation with Stoddard in his private office, and, who left behind him a bundle of securities identical with those mentioned in the headlines of a morning paper as having been stolen in the robbery of a bonding house a few days previously. Stoddard had put the bonds away in his safe at once and later had removed them to his safe deposit box at the bank. This fact gave Austin food for thought.

Certain plans had begun to form in his mind. They became crystallized almost at once, when one afternoon Doctor Goldwin summoned him to his office.

"I've some good news for you," the old physician told him, "Doctor Swartz from Vienna will be here in New York this summer. His gland operations are nothing short of surgical miracles. I haven't said anything to you about him before, because I did not want to raise false hopes in you, but after watching his work for the past four or five years, I'm convinced that if you have the courage to submit to his knife, you'll be permanently cured. His fee is ten thousand dollars. I guess you can manage that sum. I'll have a talk with Mr. Stoddard about advancing you the money."

Austin held his breath. The plan which he had worked out would be frustrated if Stoddard found out about his affliction. He considered momentarily the wisdom of confiding in Doctor Goldwin about the cutting off of his allowance, but decided against it. His plans required that he play a lone hand. The possibilities which the physician's announcement of Doctor Swartz' visit held for him, sent the blood pounding to his temples. His future, Ann, life as a normal human being, the father of children—Ann's children. . . .

"I'll see Stoddard, myself," he said, "please don't mention my—affliction to him. I'll get the money from him on some pretext or other. Promise me that you won't say anything to him about it," he insisted, earnestly.

"As you wish," Doctor Goldwin replied. He smiled indulgently at what he thought was a display of sensitiveness. "This is May. Doctor Swartz will be here early in August. I want you to be ready for him."

"I'll be ready for him," Austin said, "I'll have ten thousand dollars in your hands by the first of August."

"Very well. You must rest during the month of July in preparation for the operation. Get Stoddard to let you take your vacation early."

"I will," Austin replied. "Don't forget your promise. Stoddard must not know."

"I've given you my word, my boy," the old physician said as he escorted him to the door.

Once outside, Austin realized that he had committed himself definitely to an obligation that would take all his sagacity to live up to, but the discovery that a permanent cure was possible made all other things possible. He could go to Ann with clean hands. If he had had any misgivings about the success of his plan, they were now swept aside.

There was no time to lose in putting the scheme in operation. His time was more limited than ever now. A certain amount of cash was necessary. This he secured from the pawning of his mother's jewels. He felt a stab of remorse at parting with them for even a few months, but he had to have money. With the proceeds he went to the fishing village on Long Island near his old home and left instructions with the boatman there with whom he had left his sloop in charge for the past year, to overhaul the boat thoroughly for a long cruise that summer. This and the stocking of the boat with provisions took half of his limited capital.

He visited his old home while he was negotiating the repairs on the boat. The fine old grounds had been subdivided into building plots, and rows of small cottages all alike as peas, shut off the view of the

Sound from the once wooded slopes. Knowing what he did of business now, he marveled at his own credulity in signing the papers which Stoddard had submitted to him from time to time, and to which he, Austin, had put his signature without as much as glancing at them. He saw how completely his utter ignorance of business had delivered him into Stoddard's hands. The man would hardly have been human to resist the temptation.

Austin shed a tear or two for the fate of the old home, then set his face resolutely toward the future.

THE weeks that followed were busy ones for him. As he worked during the day, only his evenings were available for his preparations. At a store in the Bowery district he purchased an entire new outfit of cheap flashy clothes, a tie that only a race track tout would have dared to wear, a soft Fedora hat with brightly colored band, and a pair of light tan button shoes that shrieked to heaven. He also purchased a pair of dark eye glasses of the variety known colloquially as "rubber-tired."

These things he carried to the sloop in a suitcase and stowed away in the small cabin. When the repairs on the boat had been consummated, he sailed the little craft into the East River one Sunday past Hell-gate, and moored it in the angle of one of the piers at the foot of Eighty-sixth Street near the ferry dock. The Stoddard house was in the Eighties, just off Fifth Avenue, a run of less than ten minutes on the Eighty-sixth Street crosstown bus from where the yawl was moored.

His last move was to purchase a five hundred dollar bond of a certain public utilities corporation with the remainder of his money. The bond was one of those standard securities in which widows invest their life insurance money and which are as negotiable and almost as safe as United States Treasury notes.

It was early in June when all his preparations were perfected. He went over everything in detail. Every step he meant to take was planned out. The audacity and boldness of the plan augured well for its success.

On the evening of the fifth of June he approached Stoddard with the request that his summer vacation begin that following Saturday. The alacrity with which Stoddard granted the request amused him. He was not needed at the Stoddard Development and Realty Company and knew that he was kept on merely because Stoddard was just a little bit afraid of him.

"I would like to run down to Bermuda in the yawl. I may be gone two months or so, if you have no objection," Austin told him.

Stoddard's heavy lips parted in a wolfish smile. He considered how he could turn this circumstance to his own account when Austin returned, by letting the young man out on the plea that business was not what it ought to be. At any rate it gave him an excellent opening to dispense with his "protege's services."

"Take as long as you like," he replied with a magnanimous wave of his pudgy hand.

"Thank you, Sir," said Austin, gravely.

He had a long talk with Ann that evening in a secluded corner of Central Park, where he had asked her to meet him. He told her many things, some of which stirred her to wonder and filled her dark eyes with tenderness and others that made her fearful for him.

He waved her fears aside. They clung to each other in the dusk of the warm spring evening. When they parted she said:

"Even if you do not raise the money for the operation, we can work together and save until we have enough. Nothing matters except that I love you."

"There are others to think of," he replied, as he kissed her tenderly and fiercely in the same breath. "For their sake I've got to win."

The following Saturday he packed up a few necessary things and departed for his yawl moored at the foot of Eighty-sixth Street. His mind became filled with a sort of subtle intoxication as he began to put his plan into operation. He had no intention of going to Bermuda for a month or so. He simply stayed aboard the well-provisioned and comfortable little craft and proceeded to deprive himself of his medicine. With the memory in his mind of the image he had seen in the cheval mirror of his room, when his mother and Doctor Goldwin had brought him back from Gloucester, the procedure took every ounce of will power he possessed. The inforced inactivity of one month which was necessary to accomplish sufficient retrogression to make him unrecognizable, would have appalled a less determined man. The result would have made a heart, less stout than his, fail.

A Strange Visitor

IT was on a very hot afternoon in the first days of July that Stoddard, perspiring in his shirt sleeves in his office received a bulky special delivery letter. He ran his stubby forefinger under the flap of the envelope, wondering mildly what its contents might be. When a five hundred dollar negotiable bond of a certain well-known public utilities corporation dropped into his hand, his pale blue eyes lighted with sudden interest and the interest was heightened by the contents of the typed letter which accompanied it.

"Mr. J. C. Stoddard, New York City," he read:

"Dear Sir:—A pal of mine—never mind who—advised me that you would be in the market for securities of this kind if the price was right. I have $200,000 worth of them and my price is right. Thirty-three per cent. discount for cash. If not interested, please return the enclosed sample at once.

"Sincerely yours,

"Joseph Scanlon,

"General Delivery, New York."

Stoddard dabbed his bald skull with a damp, purple-bordered silk handkerchief. He turned the certificate over, examined it closely and held it up to the light. It was undoubtedly genuine. It carried six and one-quarter per cent. interest and was worth, he knew, fully one hundred cents on the dollar. He considered the letter ponderously. Two hundred thousand dollars worth of these bonds at a discount of thirty-three per cent. would have netted him sixty-six thousand dollars, a very nice profit; but Stoddard was not a man to be satisfied with a nice profit in a deal that contained the elements of a "clean-up." He knew that men who offered bonds of this kind at a knock down price were not in a position to dictate, so he came back at Mr.

Joseph Scanlon, General Delivery, New York, with an offer of thirty-three cents on the dollar instead of thirty-three per cent. discount.

Mr. Scanlon's answer was a typewritten howl of protest. He cut his price to forty per cent. discount. Stoddard raised his offer to forty cents on the dollar. They finally compromised on fifty cents, partly because the sum represented by this amount—or $100,000— was within two thousand dollars of all the cash Stoddard possessed in the world and perhaps partly because the writer of the letter was aware of this fact.

Mr. Scanlon explained that as for reasons of expediency, he was "lying low" in the Bowery district, and did not care to be abroad in daylight, because the sun hurt his eyes; he would call at Mr. Stoddard's home address which had been given him by their mutual "friend," with the package of bonds. Further, that if Mr. Stoddard would have the hundred thousand in a certified cheque ready for him at, say, eleven o'clock, on a certain night, the deal could be consummated without any fuss or feathers.

Mr. Stoddard agreed to all this except on one count. He was a careful man. A certified cheque would constitute a legal record of a transaction that might cause him some little embarrassment to explain away to an inquisitive prosecutor, if Mr. Scanlon should recover from his eye trouble and venture forth in broad daylight. The cash would be on hand in large bills, he stated by return mail.

Mr. Scanlon replied that although he hated to carry such a sum on his person after dark in a city like New York, full of unscrupulous characters, he would abide by Mr. Stoddard's decision. As a postscript he added, that he'd bring two pals along to watch outside the house, and that if Mr. Stoddard knew what was good for him he wouldn't try any rough stuff, or he, Mr. Scanlon, would make it his business to put a lily in his, Mr. Stoddard's, hand forthwith.

Mr. Stoddard smiled grimly at this horticultural postscript. These underworld characters were a suspicious lot. He could afford to smile. He had no intention of pulling any rough stuff. He was quite satisfied with a profit of one hundred thousand dollars and a whole skin.

He did, however, take the precaution of having the money to pay for the bonds delivered to his residence by an armored delivery car company, and immediately transferred it to his wall safe in the library.

At eleven o'clock that evening, the agreed time, his door bell rang. He answered it himself. The man whom he let into the darkened hall wore a soft felt hat with a brightly colored band, pulled down over his eyes, dark tortoise-shell eyeglasses, a blue double-breasted suit with broad stripes, and a pair of light tan shoes. Under his arm he carried a bundle done up in common brown wrapping paper. Mr. Stoddard's swift glance of scrutiny noted the ominous bulge of the right hand pocket of the striped jacket.

"Mr. Joseph Scanlon, I assume?" he asked, pleasantly.

The man nodded. He stood for a moment peering about the darkened hall in a listening attitude.

"Come into the library," Stoddard said, leading the way. "We're all alone," he added, reassuringly. "My wife is out and the servants have gone to bed."

THE man followed him slowly without a word. He walked with the peculiar shuffling gait of advanced age. Seated opposite in the better-lighted library, Stoddard got his first good look at him. He was a singularly depressing-looking man. The skin of his face which was of a waxy pallor, seemed to hang in folds that apparently could not be smoothed out. It gave him a peculiar wizened look in spite of the fact that he was quite evidently a young man. Although well above middle height he gave the appearance somehow of being shrunken and his movements and speech were abnormally deliberate. He sat staring at Stoddard through his darkened eyeglasses, his lower lip drooping askew in an uncanny half imbecile way.

"Let's see the bonds," he said, finally.

"Let's see the jack," the other replied forcing out each word slowly in a hoarse voice as if the mere act of speaking was an effort.

Stoddard pointed to the wall-safe. "It's in there." He held out his hands for the brown paper package. The man made no movement. He said merely. "Let's—see—it."

Stoddard made a motion of impatience.

"I play square," he said.

The man reached for his hat, as if to leave.

"All right," Stoddard grumbled, "I'll show it to you." He went to the safe and opened it, then flipped the bundle of bills in the light of the table lamp, before laying them down.

The man's wizened hand holding the brown paper package moved forward slowly. He pushed the parcel across the table to Stoddard, then put the hand into the bulging right hand pocket of his jacket and leaned back in his chair.

Stoddard tore the brown paper off the parcel. He found that it contained some half a dozen neatly folded newspapers of a very recent issue.

"What—what's this—?" He raised his head with an angry snarl but the snarl turned to amazement when he found himself looking into the bore of an automatic pistol which at the distance of the six feet that separated him from his visitor, looked to his bulging eyes like the end of a section of drain pipe.

"Pass—me—the—jack," the man said in his slow, emotionless voice.

Mr. Stoddard's lower jaw dropped wide. His pudgy hand moved to the bundle of currency, then came away with a quick cat-like movement, as if it had been turned. He took a step backward and slumped into his chair and sat staring at his visitor with the beads of perspiration streaming down his mottled face.

The man arose slowly, reached for the money and put it into his pocket. He stood looking at Stoddard for a moment, then said in his peculiar hoarse, brittle voice:

"The telephone—wires—are—cut. Stay—where—you—are—for—five—minutes— or—my—pals—will—get you."

Without another word he backed out and left the room slowly. When Stoddard heard the front door close upon him he arose halfway in his seat, but fear made him drop back. He knew that men of Joseph Scanlon's type would stop at nothing.

He sat staring at the bundle of newspapers on the

(*Continued on page* 470)

Sam Graves' GRAVITY NULLIFIER

By George Frederick Stratton

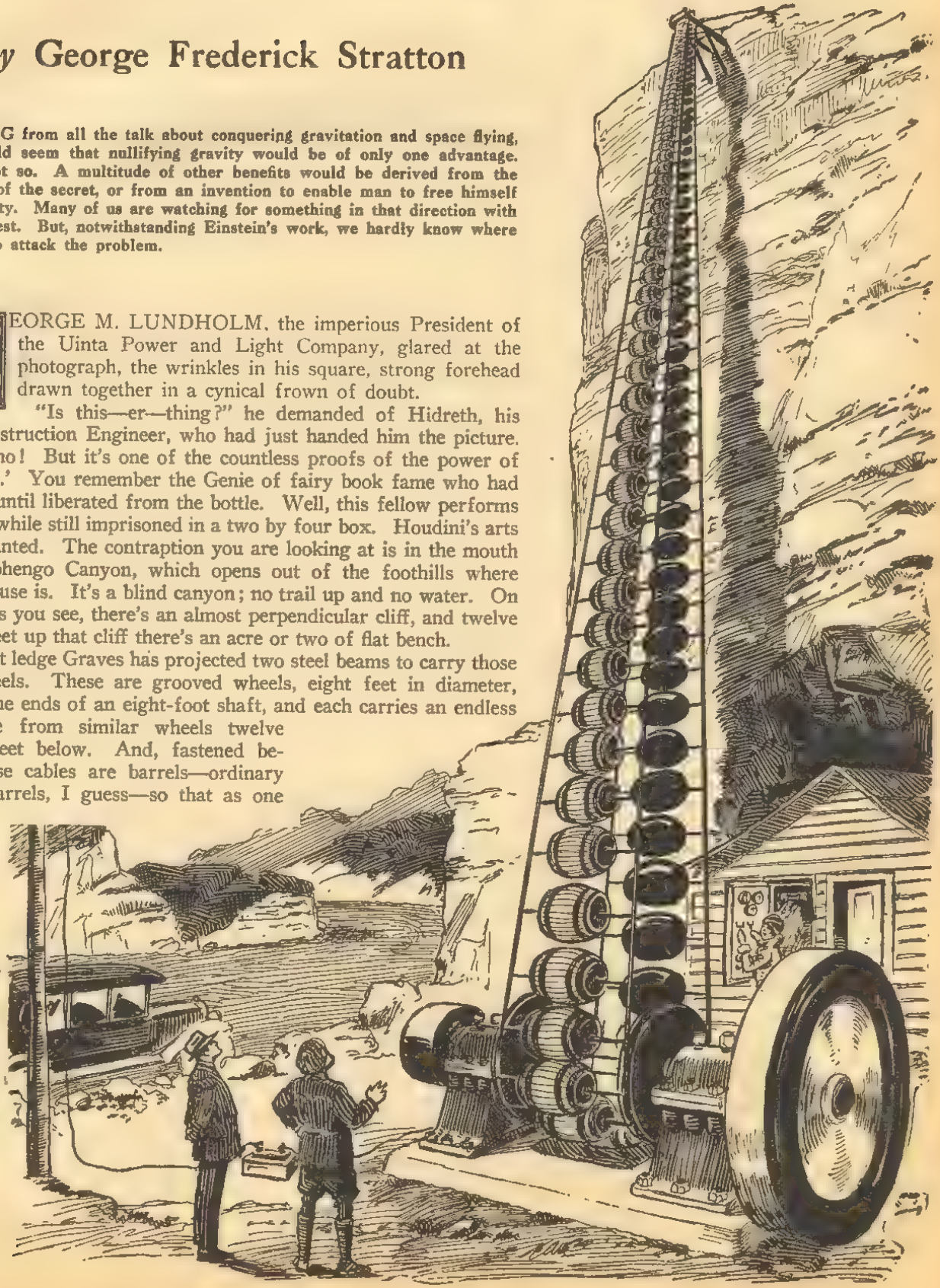
JUDGING from all the talk about conquering gravitation and space flying, it would seem that nullifying gravity would be of only one advantage. That is not so. A multitude of other benefits would be derived from the discovery of the secret, or from an invention to enable man to free himself from gravity. Many of us are watching for something in that direction with keen interest. But, notwithstanding Einstein's work, we hardly know where to begin to attack the problem.

GEORGE M. LUNDHOLM, the imperious President of the Uinta Power and Light Company, glared at the photograph, the wrinkles in his square, strong forehead drawn together in a cynical frown of doubt.

"Is this—er—thing?" he demanded of Hidreth, his Chief Construction Engineer, who had just handed him the picture.

"Well, no! But it's one of the countless proofs of the power of the 'Thing.' You remember the Genie of fairy book fame who had no power until liberated from the bottle. Well, this fellow performs his stunts while still imprisoned in a two by four box. Houdini's arts are not wanted. The contraption you are looking at is in the mouth of the Ophengo Canyon, which opens out of the foothills where Graves' house is. It's a blind canyon; no trail up and no water. On one side, as you see, there's an almost perpendicular cliff, and twelve hundred feet up that cliff there's an acre or two of flat bench.

"Off that ledge Graves has projected two steel beams to carry those upper wheels. These are grooved wheels, eight feet in diameter, keyed to the ends of an eight-foot shaft, and each carries an endless steel cable from similar wheels twelve hundred feet below. And, fastened between those cables are barrels—ordinary whiskey barrels, I guess—so that as one



She shifted the lever and the entire outfit of barrels began to move slowly, quickly gaining speed.

line is coming down the other is going up.

"And that line of barrels going up, Mr. Lundholm, has its gravity entirely nullified until each barrel passes over the top wheel; then it regains its normal weight, which is all used for the downward pull."

"H-mp! Then, as I understand it, Hidreth, this fellow claims that the ascending line of barrels has no weight, while the descending line has—well—how much?"

"There are no less than three hundred barrels on each side, Mr. Lundholm. They're filled with wet sand and the total weight on the descending line cannot be much less than two hundred thousand pounds! The shaft at the foot of the cliff carries, as you see, a three-ton flywheel on one end and a driving pulley on the other."

"What's he driving with it?" asked the President.

"Nothing. He says that he built the outfit simply as a model for demonstration; that he could belt it to generators or sawmills or anything and give three or four thousand horsepower! Some little model, eh, Mr. Lundholm?"

The President made no response to that. The muscles of his wrists were rigid as bronze as he grasped the arms of his chair and in a voice astringent with irony he asked:

"Do you believe all he tells you, Hidreth?"

"I cannot—and—yet—I do!" retorted the engineer. "I cannot believe the man Graves is a faker. I knew him well when I was on the staff of the Ensign Machine Company in Denver. We took him into the experimental department because he was an inventive genius and he never said anything that wasn't just so. He is the man who invented that marvelous Mind Revealer that the International Telephone Company took up, you know."

An intense grin came over the President's face. "Sure, I remember! Old Jake Hindleman told me about it. They paid a hundred thousand dollars for that invention, and if it had been a fake, Graves wouldn't have needed any gravity nullifier. Old Jake would have kicked him out of the reach of gravity, all right!"

An appreciative grin came over the engineer's face and there was a pause. Then Lundholm's features stiffened into their usual determined furrows and he seized his phone:

"Get me Graves; Sam Graves at the Ophongo Canyon!"

When the connection was made, he asked: "Is Mr. Graves there?"

* * * *

"This is President Lundholm of the Uinta Power Company. I've just been talking with our engineer and we'd like to look a little further into your—er gravity outfit."

* * * *

"Yes; I see. We'll be out there this afternoon."

He hung up his receiver and turned to Hidreth. "His wife answered. Graves went to Chicago on last night's train and won't be back for a week or ten days. But she says that if we go out she can show us the 'controller,' as she calls it."

"H-mp!" grunted the engineer, thoughtfully. "I wonder if he's got Chicago parties on the string. I told him I felt sure that you'd look into it without much delay, and he didn't express any impatience at all. Said he thought Denver parties were the logical men to capitalize the thing."

"There he's right!" exclaimed Lundholm. "All the same, I don't like this trip to Chicago. If the thing is genuine—if he can really control gravitation—even in a small degree, it will be the biggest thing the world has ever seen. Mind cannot conceive its limits! And eastern capital is grabbing every good thing here!"

Hidreth nodded slowly. "Say, it gets me the same way. I didn't sleep two hours last night—thinking of it every moment! Almost the last thing I saw before I left Graves yesterday was 'way across the plains a long train of loaded coal cars being started on the track, and the exhaust reports came only about ten a minute. Graves said, indifferently. 'If I went over there with this controller box and connected to that string of cars, with an insulated coupling to the locomotive, it would start them all as easily as if it were only one light caboose!'"

Then, slamming his fist on the table, he added: "And it would, Lundholm, if gravity can be eliminated or controlled!"

The President nodded gravely. Then in a low but intense tone he murmured: "It's no more wonderful and perhaps as possible as sending a hundred thousand horsepower over a wire no bigger than this pencil! Let's go, Hidreth!"

With the President's 12-cylinder car, they covered the 30 miles from Denver to the Ophongo Canyon in less than an hour. As they ran slowly up the sage-brush trail from the highway to Graves' bungalow, the inventor's wife, daintily dressed, swung her little figure from the porch hammock and murmured to herself, smilingly: "Here comes the big fellow, Mr. George M. Lundholm, multimillionaire, President of six or eight great companies and on the directorate of a dozen more. Gee! I wonder if I can behave properly and will I be up against the cold, glassy stare?"

She glided down the steps as the car stopped and with a radiant smile said: "I'm not going to wait for an introduction, gentlemen, because there's no one here to introduce me. Welcome to our glorious city, and the rest," waving her pretty arm towards the giant mountains, the snow-tipped peaks glittering in the sun.

Lundholm bowed courteously: "I believe I scowled a little, Mrs. Graves, when I heard that your husband was away; but now I'm intensely glad. I suppose if he had been here we should have gone right on to the canyon and then missed seeing you!"

"That's very nice, Mr. Lundholm. All the same, I'm sorry Sam isn't here. He had to go to Chicago to get some valve or gasket or something for a speed governor he's making for the gravity plant. It's about a half mile up there. Shall we ride over?"

She called to a tall man in overalls who placed a small but heavy box in her own car which was parked there, and started towards the mountains, while she entered the President's car. A few minutes over a rough trail of sage-brush and huge boulders brought them to the foot of the stupendous cliffs at the canyon mouth, and a sharp turn at the base ran them close to the huge flywheel on the power shaft.

Edna sprang from the car and tossed a kiss at the two strings of barrels hanging from the curious structure, twelve hundred feet up that appalling precipice.

"That's the way I feel!" she laughed. "That's the realization of Sammy's dream, and it's wonderful, Mr. Lundholm; sure wonderful!"

He nodded gravely; a little spasm of indignation sweeping over him that he, a great capitalist, involved in the biggest industries of the West, should be compelled to listen to the "gush" of a bit of a woman like this.

But she fluttered over to a small wooden building, eight by ten feet in size, close to the driving pulley of the gravity plant, followed by the mechanic, who unlocked the door and threw open a shutter across the front of the building.

"This is our control department," she smiled, "and this," pointing to the box which the mechanic had placed on the floor, "is the nullifier—Sam calls it."

With amazing deftness she connected a wire from the electric light service wire to the one end of the box; then connected the other end to a plain switchboard on the wall. There were two circular switch levers. Above one was a rough inscription: "Ascending"; over the other was "descending."

Grasping one lever, Edna replied: "I'll start it, Mr. Lundholm. You see, all the barrels now have their normal weights and of course there's no movement until we cut out some weight from the ascending side. Now look!

She shifted the lever and the entire outfit of barrels began to move slowly, quickly gaining speed.

"I dare not nullify any more," she explained, "or the speed would get beyond control."

The two men watched intently the now rapidly moving lines and the whirling flywheel. A rude but powerful lever brake was pressing on that great wheel and was being controlled by the mechanic. For a few minutes they all silently watched the movement. Once or twice Edna threw back her switch until the line almost stopped. Then she threw in the nullifier again and speeded up.

"The control's good," she exclaimed excitedly. "If anything was belted on, we could instantly nullify all the gravity from that ascending line and get all the power possible from the descending line. Do you understand.

"Perfectly," replied Lundholm. "It's quite simple, except one thing; the nullifier. That is an unseen miracle!"

"Seems so to me," she responded. "But then, I'm not a scientist. I haven't the faintest idea how that current is changed in that box to do such marvelous work. I've seen the mechanism and the windings, of course—could assemble it all myself, I think, if necessary; but why or how it acts that way is beyond me. And to tell the truth, Mr. Lundholm, it's beyond Sammy—my husband. He doesn't know any more about that part of it than you or I."

"How was it possible then for him to design or invent the machine—the nullifier, Mrs. Graves?"

"How was it possible for Marconi to devise wireless?" she retorted with a bewitching smile, "or for other big scientific men to send millions of horsepower through a tiny wire? They don't even know yet what the juice is, do they?"

Lundholm nodded gravely. "That is about so, Mrs. Graves."

She added earnestly: "They have found that current would rush itself over a wire, but they've never found out *how*."

"I'm going to show you something else," she smiled. "You don't know now, for sure, that the gravity is really eliminated from some of those barrels. There may be some fake, don't you think? I'll show you."

She rapidly disconnected the nullifier and ordered the mechanic to carry it over to the President's big car, following it herself with a small coil of wire. The mechanic ascended the electric light pole and connected one end of that wire while she quickly connected the other end to the nullifier and the nullifier to the rear of the car.

"Don't fear for your car, Mr. Lundholm. We've tested it with our own a score of times!"

Pulling on a big rubber glove she grasped the front end of that car and lifted it as high as her sparkling eyes. "It doesn't weigh a pound, you see. Try it yourself!"

He did so and the keen estimating look which he had worn before and which was not without a touch of hard suspicion, disappeared. In its place came a glare of utter amazement as he lifted the end of the great car as high as his head, without an effort.

He relinquished it to Hidreth; strode over to Edna and held out his hand. "I'm thoroughly convinced, Mrs. Graves. Thoroughly! That test is absolutely conclusive."

She disconnected the nullifier again and the man took it to her car. The two engineers had strolled over to the foot of the barrel outfit, silently gazing at it.

"It's a crude arrangement," she said as she joined them. "Those barrels were the handiest weight carriers we could get and the sand was lying all around us. Sam is making an automatic speed governor; that's what he's gone to Chicago for—to get some parts. Say, let me tell you how he built that supporting platform way up there. The man who helped will tell the same story.

"You see, there was no way to get even a pack mule up there. The men cut out a trail and scrambled up with what tools they needed, but those beams weigh nearly two tons apiece. The men just rigged a wooden derrick with a light hoisting rope and then Sam nullified those beams and one man pulled them up as easily as if they had been made of cork. It was the same with the big wheels and the cables! Savvy?"

"I savvy, all right!" murmured the President.

On the short run back to the bungalow Lundholm asked: "Mrs. Graves, do those men who helped, and that mechanic who's with us, know anything about the nullifier?"

"No more than you do, Mr. Lundholm. No one but Sam and myself has ever had one little look into that box."

"That's good!" he muttered. Then after a long pause: "As soon as your husband gets back, telephone me, if you please, and we'll arrange for a conference. This matter will, I think, have to be very carefully handled."

"All right, Mr. Lundholm. We'll be ready."

"And your husband has applied for a patent, of course? Perhaps you have a copy of the specifications and drawings. If so, we'd like to have a chance to look them over. It would save time, of course."

"He hasn't applied for a patent, sir. He made out the specifications and drawings, but I persuaded him not

to go so far yet. I think I showed him that it was far wiser to keep the process secret—at present, at least."

"You! You advised him that!" The President displayed almost as much amazement as when he lifted his own car with one hand. Then a grim smile came over his face. "I thought a woman—most women—never absolutely kept a secret."

She tossed her little head and pouted. "Perhaps that is so, Mr. Lundholm, but I've had some office-training with men—real men, the Cartwright Cattle Company—and I've learned what it means, sometimes, to keep a secret."

The puzzled look came back into his eyes and he lifted his hat courteously and drove away with his engineer, while Edna sought out a box of chocolates, snuggled into the hammock again and opened a well-worn notebook, murmuring joyfully: "Let us see what I've got about Mr. George Lundholm."

SHE fingered over the leaves until she found the clipping she sought. It was from a Denver daily and read:

"In a recent interview with George M. Lundholm, the millionaire president of several great industries in the intermountain region, he said: 'Never since I started on my career have I been in anything in which I had not secured complete control. When I cannot secure that I let the whole matter severely alone!"

She laughed roguishly. "That means that he won't play unless he has a perfectly good hand! And Bret Harte says: "Life ain't th' holdin' of a good hand, but th' playin' of a poor hand well.' M-mp! I think that Sammy and I are going to see some life pronto!"

A week later she was telling her husband of the President's visit. She finished with: "So you see, Samivel, that Lundholm won't come in unless he has full control—he thinks."

"What of that?" retorted Sam. "If he buys outright, let him have all the control he wants. That's his business! Sell him for a million dollars if he'll give it. If not, make it a quarter million or a half."

"A million dollars!" she gasped. "Only one little million for a new power of world-wide application?"

"It's all we want, Edna. I've got other things on my mind that'll bring in more."

"Just like an inventor!" she laughed, a little bitterly. "No business instincts at all. Almost unlimited wealth in your grasp and you're sidetracking yourself to make other inventions!"

"Well, my girl, you can't get even that million without giving control with it. But capital won't come in any other way."

Her eyes flashed and she said eagerly: "You say I can't do it! Do you mean that you'll leave it to me?"

"Sure do! You can play the hand if you like. I'm not afraid of your losing all, and I don't want to be bothered with it!"

"That goes, Sammy! Just don't trump my aces and I'll see that the score builds up to a respectable size. I'm not playing on a little million dollar limit. Watch me!"

She presented herself, a few days later, at President Lundholm's office and was received courteously, but with an evident expression of doubt and surprise.

"Hasn't Mr. Graves returned yet?" he asked.

"Oh, yes! But he's very busy on that automatic governor, Mr. Lundholm, and he doesn't want to waste time on business details, he said, so he sent me."

Instantly there came a suspicion to the President's mind and a fierce scowl swept over his face as he thought it possible that the "damned fool sent his wife here to vamp me; to squeeze a few thousand more out of me with pretty smiles and childish talk. Hell!"

Then, flashing as quickly as a movie picture change, came another thought: "It's their ignorance of any gleam of the real value of the thing. The fool's sending her into town to sell it—to sell this prodigious value—just the same as he sends her in to buy a pound of tea and box of crackers. They're pikers and acting like pikers and they're surely my meat!"

"I hope you're not disappointed, Mr. Lundholm," she murmured as she noted the black cloud over him. "Sam is an inventor. He knows and cares little for business. He always leaves such things to me. I am sure that I can tell you plainly what we propose."

He felt jubilant. This was going to be much easier than he had expected. "All right, Mrs. Graves. I suppose you've brought the drawings and specifications with you?"

She shook her head and smiled. "No, sir. We decided that we would not reveal the secret until a real company was formed and we were paid what we think right."

"Good Lord! Mrs. Graves. Can it be possible that you expect me to waste my time in organizing a company and looking up capital for something I know absolutely nothing about?"

"You've seen what it will do, Mr. Lundholm."

"Capital hasn't seen it!" he retorted, grimly. "What sort of fool would I look to ask men to put up perhaps two or three hundred thousand to exploit some machine that's locked up in a box and which I don't know is metal or er—legerdemain? Ridiculous! We may as well end this interview right now, Mrs. Graves. I am a pretty busy man."

She smiled bewitchingly. "You're also a man of big reputation, Mr. Lundholm, and too good a sport to throw up your hand without seeing a little further into the game!"

Perhaps she hit him right. Anyway, a curious twinkle came into his eyes. "What's the ante, Mrs. Graves?"

"Not even a white chip, sir, until you see those papers and drawings. Here's our proposition. You form a company with ten million dollars capital and pay us six millions in stock for the patents. When that company is incorporated and the stock paid in we'll give you all drawings and specifications, apply for the patent and assign it to you."

He gasped as he slumped back in his chair, and the term "Pikers" went before his eyes in circles. Presently he sneered:

"And suppose that patent is never allowed?"

"I've thought of that, please. You can put our six million dollars of stock in trust somewhere to be delivered to us when that patent is allowed—not before. Isn't that fair?"

He scowled again without answering the question. "The sum you mention is absurd; quite out of the question. Make it a million capitalization—you take forty per cent for the patents, and I'll talk to you."

"Oh, dear no, sir! If it was only you we were to deal with, we might do something like that. But with a company, we never know who are friends and who are —are schemers. We must retain control!"

Beneath the smiles, the roguish curves of the lips, the almost girlish pleading in the tones, he saw a determination in the eyes and chin which surprised him. He grimly smiled as he remembered, "And I thought they were pikers." Then:

"Of course your figure is absurd! You're estimating what the invention will do far above its merits. Now look! What special saving would there be with your —er—barrel power plant over a hydraulic plant? Water costs nothing; the entire cost is in the harnessing, and you've got to spend about as much to harness your gravity nullifier."

She gasped a little at that thought, and he followed up his point:

"You spoke the other day of its revolutionizing transportation. How would it? You've got to transport goods, even if a carload doesn't weigh a pound, and it costs nearly as much to run empties as to run loaded cars. The tracks, rolling stock and personnel all have to be there. Besides, how would you keep trains on the tracks if they had no weight?

"It's the same with vessels. If a hold is full of freight that has no weight, the ship would have to take in ballast, and if you nullify the gravitation of one you'll do it with all. No vessels would ever untie from a wharf with practically empty bottoms. How would you move stuff? You'd destroy all transportation instead of helping it!"

BUT she had recovered herself now and smiled frankly. "Those are good talking points, Mr. Lundholm, but I have some good ones, too! How about steam power with its tremendous cost of great engines and enormous consumption of coal and oil? How about using nullifiers on great construction operations: building skyscrapers, great dams and bridges? How about getting minerals and coal up two or three thousand foot shafts? Besides, there may be development of control which will make it fully as useful in transportation."

"You haven't shown any indication of it yet, Mrs. Graves."

"We surely have! Don't we take the gravity out of just what barrels we choose to, up there at the canyon, and leave those we choose to normal?"

"But how?"

"I didn't call your attention to that, sir. Those barrels are connected in groups of twenty, and we can turn the nullifier current into any one of those groups without affecting the others."

"How about the cables, Mrs. Graves; don't they carry the current?"

"They're insulated from it. You noticed that every barrel has an iron tube running clear through it, the ends projecting about a foot from each end. Those tubes hold the barrels to the cables, but where they are fastened to the cables they are in solid rubber insulations."

"I see," he murmured. "Of course other improvements may be made. The thing has some value. But——"

There he paused and his brow was heavily corrugated and his eyes half closed. "I tell you what I'll do. I'd rather keep this in private control for the present. I have two propositions. I'll capitalize an ample factory to manufacture the nullifiers and develop a trade for them and give you half the profits. Or I'll give you two and a half millions outright for the patents when they are secured."

She scarcely pondered for a moment. "I think we'd rather take the cash, if it was five millions instead of two and a half. I really believe that your offer of half profits would pay better, but I suppose I'm a little bit like Mr. Edison. Did you ever hear what he once said? I'll show you."

She took her little notebook from her bag, turned to a clipping and read: "Thomas Edison once said: 'I always play my blue chips first. I think of the biggest thing that could be done and try to do that. Many men take twenty years to get where they should have started the first day.'

"That's the way I feel, Mr. Lundholm. We might get two or three times five millions in twenty years, but we're going to play our blue chips first. Savvy?"

Again his eyes half closed and the deep corrugations wrinkled his forehead as he muttered to himself: "And this is the woman I thought a piker, or a little married flapper trying to play business."

He glanced at her keenly. The shrewd, keen, cold eyes, the thin, tightly compressed lips, the obtrusive chin of the business woman were not there in the slightest degre. Priding himself, as he always had, in his ability to quickly estimate any man, he found himself utterly bewildered by this attractive little woman in her sport skirt, her brushed wool sweater and jaunty hat pressed down on curly head so firmly that only the twinkling innocent eyes peeped at him from under the narrow brim.

Presently he grunted: "I guess it will have to be as you say." He pressed a button, and when his stenographer appeared, said:

"Jim, take down an agreement; two copies!"

He dictated, and when the typewritten copies were ready, handed one to Edna, who read it carefully. She handed it back.

"The last clause, Mr. Lundholm, reads: 'Any improvements or additions made at any time by the said Samuel Graves shall become the property of the said George M. Lundholm without cost to him.'

"There should be added to that, sir, that the cost of experimenting and making such improvements will be paid by you."

He laughed grimly. "To the last pound of flesh, eh? Make that change, Jim!"

Then, with a very earnest expression, he added: "If you had accepted my first offer I should have suggested that you become an active partner in the business—the business manager, in fact. You have just the qualifications for this particular thing. I don't mind telling you now that I decided before to limit my offer to a million or perhaps a million and a half. And you've forced me to raise my ante to five millions!"

"Yes," she laughed, "but don't forget that you take the whole pot, Mr. Lundholm!"

THE END.

The Grim Inheritance

By Carl Clausen

(*Concluded from page 464*)

table until the minute hand of the clock on the mantel had advanced five minutes. At the end of that time he ran into the street screaming for the police

Half an hour later, while men from headquarters were taking his incoherent statement, a sloop with her canvas spread to the midnight breeze, stood up the East river, past Hell Gate and headed for the Long Island Sound. The description which Stoddard gave to the officers of the man who had robbed him, tallied perfectly with the man whose hand was on the tiller of the boat.

Crane Returns from the Bermudas

SOME five weeks later, Austin Crane, bronzed and in fine fettle from his cruise to the Bermudas, presented himself at Doctor Goldwin's office, for the preliminary examination before submitting to the eminent foreign specialist's knife. Doctor Goldwin's face was grave.

"You've heard the news, I suppose?" the old physician asked.

To Austin's reply that he hadn't, the doctor said:

"Stoddard and Company have failed." He told Austin about the robbery and gave him the details of the failure. "The police think that he staged the holdup himself to cover up his embezzlements of your money and the girl, Ann Barrett's. His description of the alleged bandit was so fantastic, that the authorities smelled a rat and took charge of his books. I'm afraid, my boy, that you'll never get a red cent out of the mess."

Austin drew a deep breath.

"It was lucky I got the ten thousand out of him before I left," he said. "You think that the operation will be a success, Doctor? I'm banking on it. I want to get married—to Ann Barrett."

The doctor cleared his throat. He seemed to be thinking.

"There's not the slightest doubt about it, my boy," he said, finally. "I'm more than ever convinced since my talk with Doctor Swartz a few days ago." He paused. "I'm glad the little girl will be provided for. I was wondering what was going to become of her."

Austin smiled.

"She's got a little money laid by that Stoddard failed to get his hands on," he replied, "we'll make out."

The old physician gave him a quick, appraising look. His wise old eyes held Austin's for a moment, then he drew his breath in sharply as if an idea had suddenly struck him.

"I—think you will," he agreed, slowly.

THE END

In this department we shall discuss, every month, topics of interest to readers. The editors invite correspondence on all subjects directly or indirectly related to the stories appearing in this magazine. In case a special personal answer is required, a nominal fee of 25c to cover time and postage is required.

A VERY CHARACTERISTIC AND PICTURESQUE COMMUNICATION

Editor, AMAZING STORIES:

About a year and a half ago, a group of boys and myself were standing by a newsstand making fun of the names of cheap magazines placed thereon, when suddenly one of our number pointed at one magazine and began guffawing in a most amusing manner. The magazine was called AMAZING STORIES. We all joined in and laughed with him. Intending to have more fun, I picked up the magazine and examined the cover. I was puzzled. The picture was not in keeping with the name of the magazine. Merely out of curiosity I opened the magazine and saw the first illustration. It astounded me with its wealth of scientific detail! My eye quickly jumped to the title of the story. "The Comet Doom," I mused. "Scientific magazine?" I said aloud. Then eagerly I turned the pages until I came to the second illustration. I believe I yelled aloud, because it was also scientific! A magazine dealing with the subjects I loved! I turned the pages eagerly, scanning each of the illustrations with ever increasing interest. I began reading one of the stories, and unconsciously began walking home, reading, when suddenly a loud harsh voice with a foreign accent rent the still evening air. "Hey, dere! vot you doing? bring back der magazine!" Awakening from my trance, I turned to see the irate newsdealer yelling for me to return the magazine to its rack. Return it? I thought. Never! I gladly paid him the required amount. By sheer will power I closed the magazine while I ran home. I collided with three people, and didn't even turn my head! Dashing into the house and throwing my cap somewhere, I dived for the couch and with expectant eyes I scanned once more the now precious pages. I have not missed an issue since that day.

There has been so much intelligent comment on all of the issues up to the April number that there is little left for a 16 year old boy to say. However, in the story "The Worm," a worm is supposed to have grown to colossal proportions, almost the width of a house and much longer. According to J. B. S. Haldane's essay "On Being the Right Size" in his book entitled "Possible Worlds" this would be highly improbable, because a worm has a skin through which all of the oxygen it requires can soak in, a straight gut with sufficient surface to absorb its food, and a simple kidney. Increase its dimensions tenfold in every direction, and its weight is increased a thousand times, so that if it is to use its muscles as efficiently as its miniature counterpart, it will need a thousand times as much food and oxygen per day and will excrete a thousand times as much of waste products.

Now, if its shape is unaltered, its surface will be increased only a hundredfold, and ten times as much oxygen must enter per minute through each square millimetre of skin, and ten times as much food must pass through each millimetre of intestine!

"The Skylark of Space" was absolutely the best Scientifiction story I have ever read anywhere. One of your readers wondered why the occupants of the "Skylark" would need heavy wrappings. The atmosphere, it is known, exerts a pressure of 15 lbs. per square inch, and the human body in order to preserve its contour would have to exert an equal pressure against the atmosphere. He mentions that there is almost no pressure and the human body exerting its outward pressure would swell and eventually burst! Maybe they did need the suits! "The Skylark" plays havoc with Einstein's theory. Einstein holds that an object as it gains speed diminishes in size until it reaches the speed of light and then it ceases to exist. Also he contends that if one could travel as the speed of light time would "stand still." That is to say that if a clock could travel at the speed of light the hands would not turn while it was traveling at this speed because no time would elapse.

"Into the Green Prism" was the most enjoyable story you have published since "The Skylark of Space." A. Hyatt Verrill is my favorite author. There are a few things, however, that puzzled me. The minute people he says were uncrushable because they were scarcely larger than atoms. If this were the case why did not they fall through the relatively spacious molecular structure of the earth? Would they not be hammered to death by the vibrations of the molecules of the earth? Ramon mentions also that each molecule of

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water was as a huge cloud to them. What did they drink? The body is nearly 60 per cent water and if each molecule of water is larger than they, they could not drink, and water which is essential to their bodies could not be had. What did they eat? How could they breathe, if each molecule of air was larger than their nostrils? They could not converse because the vibrations produced from their small throats could not start waves in the comparatively gigantic molecules of air. Every biologist knows that if the cellular structure of an animal is upset, the working of his system is impaired. For a cell to function correctly, every molecule of its protoplasm and cell wall must be present. Then, if these people were reduced by the manabanite prism, and remained healthy (as they evidently did) every molecule of every cell composing their bodies must have been present. This being so, no loss of weight would occur in their transformation, and the concentration of their original weight on such a small area as that upon which they stood would have forced them into the earth. Do you not think that in the long years of these minute people's existence some sediment would have been left on top of them by the heavy rains that occurred each year? It seemed a bit queer to have the burro being chased into the Indian village so soon after his reduction, when the distance from the reducing prism to the village was to him the equal of hundreds of miles! Also, don't you think that these people, during the long time they existed in this reduced state would have advanced and abandoned their old customs? The "Prof" is described as picking up Ramon's violin after his reduction. The glue used in making fine violins is animal matter, and would have been reduced, leaving the violin in pieces.

There seems to be an argument about whether or not inertia is present in a body free from the effects of gravity. I am no "dyed in the wool" scientist, but I contend that inertia is ever present in a body. It always takes force to start or stop a body. A balloon that has the same weight as an equal volume of air may be used as an example of a body that is free from the effects of gravity. If in a strong wind you throw this balloon upward, its inertia will tend to make it move in a straight line away from your hand. The balloon will not travel with the wind as soon as it leaves your hand, but it will resist the wind's effect and describe an arc before it travels wholly with the wind.

One of your readers thinks a shadow three dimensional, but I contend that he cannot even think about a shadow because it does not exist! Shade is the absence of light and nothing else. You do not even see a real shadow, its outline is determined by surrounding light.

The illustrations are fine, but we need more of them to relieve our overworked imaginations!

I think that "we of the Discussions department" should start a correspondence club and discuss various scientific subjects.

John H. Pinkard, Jr.,
2805 Sherman Avenue N. W.,
Washington, D. C.

(You object to "The Worm" growing so terribly large in the story of that name. But would it not be possible that so large a worm would have a more active skin, both internal and external? But whatever criticism your views on the physiology of the worm may be, it is interesting to see that your arithmetic is very accurate. Many people do not understand the relation of cubic contents to the superficial area as you do.

A sudden withdrawal of all pressure from a human body might have disastrous effects, but the body would not explode unless the change was instantaneous.

Several communications touch on "Into the Green Prism." It is open to criticism, we know, if we accept the modern theories of the constitution of matter as being definitely and fixedly right, but we must remember that these views are changing from year to year, and when anyone is writing so beautiful a story and with so much poetry in it we should gladly allow him some poetic license.

Inertia is quite independent of gravity and it is always present in matter. There you are perfectly right in your contention.

As regards the shadow, we do not see how you can get nearer the idea of two dimensions than by this "Absence of light," as you term it.

As regards the correspondence club, we publish the names and addresses of our correspondents so that there will be no difficulty in starting such a club as you propose. Why don't you try it? We will be glad to publish in AMAZING STORIES the best letter resulting from a science club.—EDITOR.)

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THE PATH TAKEN BY SPACE TRAVELLERS IN A VESSEL WILL NULLIFY GRAVITY

Editor, AMAZING STORIES:

When you said that "The Face of Isis" would become a target for criticism you were right. That is the object of this letter.

When reading a story, I like to imagine it could really happen under certain conditions, and this is what I thought of Mr. Wates' yarn until I came to the place where the professor revokes Wells' theory concerning what a body screened from the earth's attraction would do. This apparently learned man (i. e. the professor) states that if a body were released from the earth's gravitation, it would fly off at a tangent to the revolving earth, which is very true. However, Mr. Wates must have considered that the earth would stop revolving when he said that the body would fly along the earth's surface and straight into space, because, if a condition like the one stated were possible, it would be found that the body would rise vertically from the earth's surface, or at least would seem to do so to any person in it, because the earth would revolve on its axis as swiftly as the space car would fly off, therefore the car would not go faster than the earth from the nullification of the earth's attraction, as Mr. Wates would have us believe. In fact, the car might even seem to go slightly backwards.

The author's mistake arises from the fact that he places himself, not on the earth but outside of it, standing still in relation to space, as we might infer from the illustration of the revolving wheel and electro-magnet. Am I not right?

Another story that I wish to criticize while I'm at it, is "Four Dimensional Surgery." At one point in the story the characters are supposed to have been pulled into the fourth dimension by some "four dimensional forceps." In this dimension they are supposed to be able to put their hands into their bodies without feeling it, as though they were not there. It is then that one of the characters snatches some gall stones within himself and extracts them, apparently forgetting that they are as much in the fourth dimension as himself, and he can no more touch them than his body, and his hand would therefore pass through the stones.

Accuracy is what distinguishes Jules Verne and Wells from these others and I would therefore appreciate more of these two authors' works. Mr. Hyatt Verrill and Garret P. Serviss are other fine authors, and I enjoyed the former's story, "Into the Green Prism."

Gustave Albrecht,
4816 North Rockwell Street,
Chicago, Illinois.

(Your criticism on "The Face of Isis" is very clever. Any object propelled by centrifugal force, so called, follows a tangent to the circle or curve where the force in question was generated. So a car or object, whose gravitation was nullified, would certainly fly off under the effect of centrifugal force at a tangent to the earth. But again, if the body went through a vertical tube first, we would have a radioed component introduced, so that the curve or path traversed would be of a more or less complex order.

As regards the four-dimensional story, that is easy to criticize. And most stories based on the fourth dimension have to be treated as fantasies, for they certainly are not facts. "Into the Green Prism" is certainly a fantasy also, but it is distinguished by Mr. Verrill's knowledge of ethnology, and the archeology of South America. It is a story which few will read without obtaining from it real information.—EDITOR.)

INTERPLANETARY TRAVEL. VALUE OF CRITICISM TO THE EDITOR.

Editor, AMAZING STORIES:

I am 15 years old and a junior in high school. I have just begun your June copy of AMAZING STORIES, therefore I cannot use your piece of paper for my vote of preference.

I do not think that stories like "The English at the North Pole" should be put in. When we buy a copy of our magazine, we expect to read something we do not know. The story is probably very good, but it does not fit in your magazine.

Another thing, I do not know much about interplanetarianism, but I shall presume to ask a question on it. When the authors write stories about interplanetary trips, they forget a prime factor, that is, digesting food. In the space outside of the gravity radius of the planets, I think it should be almost impossible to eat. For instance, when you are standing on your head you

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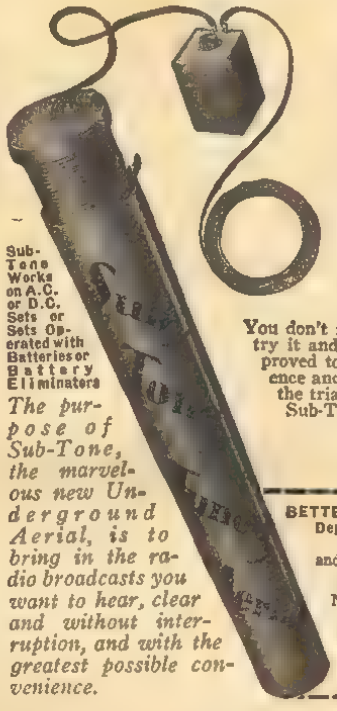

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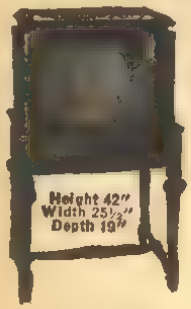

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cannot eat. Not even when you are lying down. To prove this point, try it. In other words, I claim that gravity is necessary to digestion. As there is no gravity between planets there can be no digestion except by special methods.

I think that the name should be changed to something that sounds nicer and is more suggestive. AMAZING STORIES is hardly appropriate. Another thing—some people say a change of name would reduce circulation. On the contrary, the circulation would be increased. The people who had been reading it before would continue to do so on account of profuse announcements. If the name were good, like Scientifiction, it would attract more readers because it is unique and because it is not trashy sounding.

I want to criticize your criticizer of critics. I mean Louis Walder. It is preposterous for a correspondent to try to criticize critics. If it were not for the critics, the magazine would lose interest to many. The authors would not try to correct mistakes, because they wouldn't know about them. It is by stiff criticizing and by knowing its mistakes, that a magaine can improve itself.

I think Walter A. Yonovitch belongs to the class I have specified above. He professes to have a great interest in the Science Club and yet he complains of the room given for Discussions.

I have been reading AMAZING STORIES for some time, but just recently I started reading Discussions. Now I take as great an interest in them as in any of the stories.

I am greatly interested in science, especially physics. I do not know much about any science, but I have been learning, and I will continue to learn.

Teddy Projector,
1340 Nelson Avenue, Bronx, New York.

(You have often noticed at the head of our magazine a picture of the monument to Jules Verne. We have felt that he, in a sense, is one of our examples of scientific fiction authors. So you must not object to our giving occasionally one of his stories. We admit that we never thought about the digestion of food in interplanetary space. The writer remembers many years ago seeing a magician standing on his hands, head downwards, on a table, and taking a glass of beer in his teeth and swallowing the beer. Perhaps, however, he didn't get it down until he returned to his feet. We are always willing that our correspondents give us constructive criticism.—EDITOR.)

A REQUEST FOR REPRINTS

Editor, AMAZING STORIES:

I'm starting my letter off with a request which I am sure will be seconded by a large host of AMAZING STORIES readers. What I wish you would do is to reprint A. Merritt's story, "Through the Dragon Glass," which appeared in the All-Story Magazine years ago. Also some stories written for the same magazine by Austin Hall, Ralph Farley and Homer E. Flint. In the "Discussions" column of the May issue of AMAZING STORIES, 1929, a reader by the name of Todhunter said he would like to know of a story called "The Invisible Professor." The correct name is "The Vanishing Professor" and its author is Fred McIsaac. I read the story when it appeared and can safely say any scientifiction reader would enjoy it thoroughly.

I'm for reprints, but I do not mean the ones that were written so long ago that their forecasts had already come true. I am also in favor of your reprinting "The Blind Spot," even though I've already read it. And, Editor, if you are undecided as to whether or not to print it, you should hurry along with your decision, for the readers of the magazine in which it originally appeared are voting whether they should have it reprinted or not. By the way, will your readers please stop casting slurs at "Weird Tales" magazine? I buy every issue of "Argosy," "Weird Tales" and "Our" magazine as they appear, for all have the same authors or most of them. They list:

1. Edmond Hamilton
2. David H. Keller
3. A. Merritt
4. Clare W. Harris
5. Ray Cummings
6. Murray Leinster, etc., etc.

So you see when you criticise that type of fiction appearing in these magazines, you are in turn throwing dirt at your own.

And, Editor, give us another cover (story) contest. I have written many science stories, amateurishly, and can hardly hold myself in restraint, when I know that some of my friends who have also written science stories galore, chiefly among them, John Reibel, author of "Voice from the

Moon," also of "Emperor of Ten Worlds," both Sunday Times, and Bernard Kantor, author of "Invisible World" and "Beyond This Finite World," and are also waiting for a chance to number as contributor of "Our" magazine.

Jerome Siegel,

10622 Kimberly Avenue, Cleveland, Ohio.

(We are receiving so much good and original matter that we have to be very chary in giving reprints. From a literary standpoint, we almost wish our magazine were twice as large as it is, but, of course, that would be impossible now. However, with the new length of our type page, about three pages of editorial matter is added. We think you will like the illustrations as they now appear more than ever. We are trying to improve AMAZING STORIES artistically as well as in literary and scientific value.—EDITOR.)

HELPFUL IDEAS TO BE PONDERED OVER. A SUGGESTED WAY OF CHANGING THE NAME

Editor, AMAZING STORIES:

Your stories are good, but I, like all the rest of mankind, will at present overlook *all* the good parts and give you only my criticism.

Now, to "get down to brass tacks," as the saying goes, do you really think "The English at the North Pole" comes under the heading of Scientifiction? Does it warrant the taking up of half of those "precious" pages for which we have to wait a full month? To make things worse, only half of it is past. The story can be found in any library and while it is a good story and I must say I did not read the book, but read it in "Our magazine," I still maintain it has absolutely no place under the heading of scientifiction.

Here is another "brickbat." I wish the authors would not write some of the stories in that "jerky" fashion. It looks as though they're either pressed for space or else lack words. What I mean is that the story seems to be uncompleted or else only an outline of the story is given. I especially refer to the "Moon Strollers" of the May issue, since it is the freshest in my memory.

Now about pictures. I read a lot about pro and con, and have nothing to say as to whether you should have more of them, but couldn't they be just a little less explanatory? It often happens that I take a good look at a picture and can tell just what the story is about. That takes the zest out of it.

Now you will again hear something you've often heard before. Can't you change the title of your magazine? I will tell you why.

I attend college. During lunch time the fellows get together and often discuss things that would make a good basis for your authors. Once I happened to mention AMAZING STORIES and all the fellows at once suggested ghost stories, love stories, etc., for me. They, while I know all of them would enjoy AMAZING STORIES, never looked into one, as though it was just another of the trashy category.

Now my argument is this: If you would put into, say six issues, a large noticeable announcement that you will change the name, you positively will not lose any of your steady readers. Now let us say it will cost you something to effect this change. I feel certain that the increased number of readers, those that are interested in science, will in a very short time reimburse your possible loss. You certainly cannot lose any old readers by changing the name. Again I repeat that many people who would be overjoyed to read your magazine don't do it, because they do not recognize its value. I myself came upon it accidentally, and many to whom I recommended it are thankful to [illegible].

The old "Experimenter" suddenly disappeared and we had a "deuce" of a job finding out what became of it. It should have been advertised as I suggested.

But please think twice before you give us another Jules Verne story. Let us have *long* interplanetary stories with good science, especially some of that brand new science the authors invent, so when I get up against some fellow reader who uses your magazine as a textbook, we can have a "red hot" debate.

Science teaches us that things expand in heat. Well, summer is just around the corner and I suppose you are about outlining your summer issues. Couldn't you follow science and expand your magazine? Make it a little longer. Not the size of your paper, of course, but the stories and their number.

You advertised that the QUARTERLY will be out April 12th. Well, it is the 18th now and still I don't see it. What is the matter? I hope your authors won't pay attention to those "kickers" who

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C. M. THOMAS, 337 W. Madison St., S-K-22, Chicago

claim this and that is not possible. We are, as one of your readers writes that the sailor said, "looking for a yarn, not an argument." (Slightly misstated.)

M. Sommer,
3936 North 8th Street, Philadelphia, Pa.

("The English at the North Pole," like "The Journey to the Center of the Earth," which we published some years ago, is full of science, meteorological and otherwise. You rather weaken your argument about it by letting us know that you read it for the first time, in what you so aptly call "our magazine." Every author, of course, has his style, and while we take the liberty of very carefully editing the stories, we cannot make any radical changes.

Our effort in the matter of the pictures is to get them accurate. If there is a test-tube rack in one of them or a Bunsen burner, we like to show it as it really exists. But this does not tell the story. The trouble about changing our name is just this: the magazine is now very widely known under that name. It has a large and appreciative circle of readers, so that you can see that any change in the name is a very delicate matter.

An interplanetary story, from the very nature of things, must have more fantasy in it than anything else. We think it is possible that it might be really cold in interplanetary space where there is no air. The distance of the different planets, their size, their characteristics, as far as known—these and other things take care of the basic science element in these popular and imaginative productions.

The publication dates of the QUARTERLY are July 20th, October 20th, January 20th and April 20th.—EDITOR.)

AN INTERESTING LETTER ABOUT TWO DIMENSIONAL BODIES, GRAVITATION AND OTHER SUBJECTS

Editor, AMAZING STORIES:

Having been a reader of your magazine, AMAZING STORIES, for twenty-five months, I have at last persuaded myself to take up my pen and write you a few (?) lines in the hope that I may be rewarded by seeing them appear in "Discussions," the ultimate heaven of all correspondents.

As the prizewinners of 1927, I have selected "The War of the Worlds," by H. G. Wells, and "The Land That Time Forgot," by Edgar R. Burroughs; for 1928, "The Moon Men," by Frank Brueckel, Jr., and "Armageddon—2419," by Philip Nowlan, takes first place for 1929.

And now for the brickbats—in "The Face of Isis," by Cyril G. Wates, the author states that the action of a base on an unknown element combined with magnesium makes it a non-conductor of gravitation. I believe this to be impossible, because the aforesaid force acts through the ether; and any chemist would think you crazy if you told him that the action of an acid on a compound could decrease its mass (by making it denser) and thus increase the speed of its electrons.

While I have not as yet made a special study of worms as classed under Metazoans, I do not believe that they have eyes, or are equipped for boring through rock that would blunt a diamond drill, as Dr. David H. Keller states in "The Worm." Also, how can a shadow be a perfect two-dimensional object? It is merely an image in the brain caused by the reflection of light rays. A two-dimensional object could not exist, since every particle of matter in the Universe has three dimensions.

And now, I have at least one bouquet for you, if you do not regard my second paragraph as containing such. Mistakes are becoming fewer and fewer, and your stories are a distinct improvement over those first published.

James Suiter,
151 Bergen Avenue, Jersey City, N. J.

(Your letter is very interesting. We have enjoyed its comments.

You must not be too positive about how the force of gravitation acts. You say it acts through the ether, but the ether is a hypothetical body, and magnetic induction and gravitation are profound mysteries and bid fair to remain so for a long time.

Dr. Keller's story, "The Worm," has an atmosphere about it which gives it true value and the atmosphere certainly was conduced to greatly by his attributing such power to the worm.

As regards the shadow problem, you say every particle of matter in the universe has three dimensions, but the shadow has only two. So, we think it is really an admirable, though somewhat metaphorical presentation of the two-dimensional object. The last sentence of your letter tells us that our magazine is improving. This is a most welcome tribute.—EDITOR.)

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A CRITIC OF MR. VERRILL

Editor, AMAZING STORIES:

Allow me for the first time to contribute to the Discussions Column.

Each issue brings new thrills and added scientific knowledge to me. I read the April number yesterday in one sitting! The "Revolt of the Atoms" was superb, an excellent lesson in chemistry. The motto of AMAZING STORIES ought to be "Learn while you are entertained."

While reading "Into the Green Prism," I discovered several inconsistencies which I call to your attention.

1. The author says the microscopic Manabis are about the size of an atom. Then he says the grains of sand would appear as mountains to them. If a grain of sand were magnified to the size of our moon, the atoms of SiO_2 might then be visible.

2. Another statement makes the molecules of water appear as great clouds to the tiny Manabis. Then the professors see the Manabi village wet from the rain. Can the author explain how a molecule of H_2O can be split up so that a fine spray of water would result? This is incredible.

3. Let us again take the author's statement that the Manabi village could be situated between two grains of sand as between great cliffs. Would not the tread of a full-sized man's foot displace several grains of sand, at the least, and thus bring destruction to the tiny inhabitants?

4. Once more, Mr. Verrill says that each molecule of water would appear as a dark, large, cloud. Now, if a molecule at that height would be of such great size, the atoms and the electrons composing it would be visible. The electrons would be the size of tennis balls revolving hundreds of feet from the nucleus. Would the rays of light be too dense to enter between these? I agree with one reader who writes that "Out of the Sub-Universe" was the best story you've ever published. It certainly was grand. Dr. Menzel's articles on Einstein's Theories in SCIENCE AND INVENTION are most vivid and have given me more enlightenment on the subject than any book I have ever read on it.

I disagree with readers who want the name or type of cover changed. Both the name and cover are well established and it would be poor policy to change them.

"Buried Treasure" was amusing. The cryptogram is clever and reminded me of Poe's "The Gold Bug."

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Leon Rosenthal,
63 Liberty St. W. H., Newburgh, N. Y.

(We have already spoken of Mr. Verrill's story, "Into the Green Prism," and have observed that he has attained almost classic writing, as he has produced what is really a beautiful story with much of the poetic side of human nature in it. He is a very popular writer and perhaps the fact that he always takes liberties in his stories must be justified for the need he feels of keeping the readers' interest alive. He is a distinguished scientist himself and you will find his ethnology and his descriptions of archeology of the Spanish Americas most interesting. As regards atoms and molecules, you will find that scientists are still far from certain as to their constitution—EDITOR.)

FROM A YOUNG READER

Editor, AMAZING STORIES:

After sitting and listening to your readers talk all evening, I find myself obliged to put in my oar. I have just finished your May number. The story I liked best was "The Moon Strollers." It is, I think, very practical and is in accordance with a principal point of interest of the present age, that of reaching the moon.

Next, I would like to take up the age-old argument, your cover. I just read Mrs. Snyder's epistle, and my case is the same. I was also attracted to the magazine by its cover.

I am a young reader, being only fourteen. I do not get every number as my father considers AMAZING STORIES "sensational trash," which it most certainly is not.

Theodore E. Green,
P. O. Box 483, Vista, California.

(We receive many letters from young readers. Most of them are decidedly commendatory. As regards your father, do you not think you could get him to read some of our stories, so that he will change his mind about the status of AMAZING STORIES? We take such a personal interest in it that we are anxious to have everybody like it. The letters we publish in our correspondence column, and there are many more, which we have no room for, are absolutely not picked out because they praise us. Rather we are guided by their interest and solid value.—EDITOR.)

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A READER LOOKS FOR COLD FACTS IN AMAZING STORIES

Editor, AMAZING STORIES:

I have been reading AMAZING STORIES for the past year and I find its contents as good as any stories I have ever read. There are some stories I do not like, but the majority of them are excellent. Such stories as "The World of the Giant Ants," for instance, do not appeal to me. I thought AMAZING STORIES was based on facts. If they are, then why print such stories as these? I also like good interplanetary stories, but I think when too many are published in one edition, it tends to destroy the interest one has in the magazine.

In one story, an author tells us, that in traveling through space, a person in a space-flyer has no weight to speak of. In another story, the author tells us that a person in a space-flyer can walk around as though he or she were on the earth. Now which is truthful?

I believe that after passing out of the atmosphere of the earth, a body has no weight whatsoever. If that is true, how is it possible to attain any speed desired? It is so, that the less weight, the more speed, but with less safety.

Another thing, if all the instruments that have been produced in the last ten years are as they have been claimed to be, why has there not been started a projectile such as explained in "Four Dimensional Transit?"

I read the story of "The Master of the World." In it, it explained how an airplane could be turned into a speedboat, a submarine or into an auto, at will. If that is true, which I think it is, why has it not been done?

Harmon H. Ladig,
724 Orff Avenue, Fort Wayne, Indiana.

(Your appreciation of our work is most acceptable. Sometimes we feel as if it has taken all these years to give us a complete "feel" of the public taste in such material as we use, and we believe that the result will be to give a better magazine always. AMAZING STORIES may be said to be based on facts largely, but its stories are based on other things also. They are based on possibilities of the future and in order to give the romantic touch, our authors indulge in what may be called quite wild predictions of what is to come. Your views about weight are inaccurate. The atmosphere of the earth has no connection with weight, except as it acts to buoy up the body, and if the body is that of a human being the buoyant effect is very little. In case of a mass of lead, it would be still less proportionately. Weight is due to the gravitational attraction of the earth for the object and of the object for the earth. A space traveler would ultimately reach a zone of no weight or of practically none. There is no relation between weight and speed, if the body continues to be propelled. A very heavy projectile, other things being equal, will go further than a light one, because proportionately there is less air resistance. If you do not understand the points we are making, do not hesitate to write again. Various efforts have been made in the direction of constructing an automobile which would cross a river, acting as a boat, but we never heard of anybody attempting to give it the third function of being a submarine. So do not look for cold facts *only*, in AMAZING STORIES; look for inspiration and possibilities of future times, and realize that the wildest predictions in many cases may be true views of the future.—EDITOR.)

THE FLOATING SEA-PORTS

Editor, AMAZING STORIES:

I have just finished reading the "Discussions" department and was rather amused at the many varied ideas for bettering "Our magazine."

It has been my thought, if you were to try and please every one, why not take inventory of the likes and dislikes of each individual and make a magazine for that person alone. Now, as that is quite impossible, why must there be so much squawking? Do not our readers realize they are getting some of the best stories from some of the best, if not the best, authors of their type in the country?

And now as I am a loyal booster of AMAZING STORIES (and that name stands for me) I've been telling my friends about the educational faculties in scientific lines which are in the magazine, in hopes of getting more loyal boosters for us. I have succeeded very well to a certain degree, but then I've been laughed at by others, especially when I outlined the story of "A Modern Atlantis." The fellow I am living with is taking up aviation, and naturally knowing something about it, said it wasn't practical at all, and so I receive the merry

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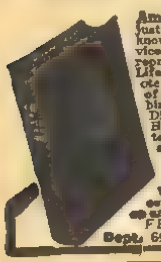

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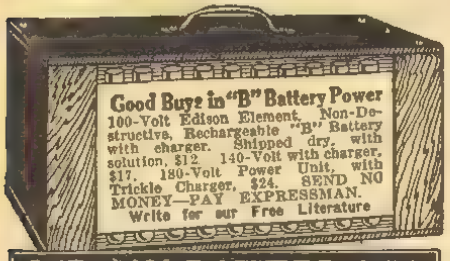

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haha, but as the saying goes, he who laughs last laughs best. It is an old saying and a true one, for there is now indisputable proof of the practicability of that idea.

I will try and explain to those who may still doubt the far-seeing and correct-seeing eyes in some of the authors' stories in our magazine.

At Wilmington, Delaware, there is now under construction a seaport patterned after the description given in that story. It is to be completed in six months. After a trial of six months, between the United States and Bermuda, if proven successful, six more are to be built and stationed across the Atlantic. A company has already been formed with capital and funds to complete all of these floating airports. If the first proves its worth and the other six are completed, it will cut transoceanic travel from five and six days to 24 or 36 hours. So, I hope some of your skeptical friends will read this and verify my statements.

In closing, may I just state, that all the stories published so far have been very good and some cannot be praised enough. As for the reprints, put 'em in and I hope you get so many calls for more editions that you have to start a weekly besides the Monthly, Quarterly and Annual.

I am glad to see at least one old veteran taking an interest in something really worth while. I refer to our blind friend who lost his sight in the big fight. I was there, but was only nicked.

A Friend and Booster.
(No name)
(No address)

(We thank you for your kind letter. It is quite interesting to find you noted the construction of the floating sea-port at Wilmington. Its progress will be followed in the columns of SCIENCE AND INVENTION.

The waves of the ocean affect the water to a very limited depth. The motion of a deep draught ship in a seaway is far different from that of a shallow vessel. The floating sea-port may be almost without motion if the flotation element is deeply enough submerged. Of course, only a part can be so placed. The whistling buoy is based on the principle outlined here.—EDITOR.)

A GOOD CRITICISM AND APPRECIATION OF AMAZING STORIES FROM A BASEBALL PLAYER

Editor, AMAZING STORIES:

In the "Discussions" department of your magazine I have read letters from people of every walk of life, but never have I read one written by a baseball player—so here goes!

I have been a reader of AMAZING STORIES ever since the first issue was printed, and I find I have nothing but praise for the magazine. I stay far away from home most of the year, and AMAZING STORIES helps wonderfully to pass the lonely nights away. I am especially pleased with your magazine cover. Your artist does himself proud on every cover produced and circulated. The cover helps to distinguish your magazine from all others on the book-stand, and if the pictures are extraordinary in looks, they only harmonize with the contents of the magazine—so that's that! I also read letters in "Discussions" criticizing certain stories as being scientifically incorrect—that is not good. Most of the criticizers have no absolute proof that they are right in their opinions, and as I understand it, the object of AMAZING STORIES is to stimulate the imagination. I see no use in this criticism that the magazine receives. Through "Discussions" I have corresponded with numerous people all over the globe and I enjoy that very much. All in all, I think that AMAZING STORIES couldn't be improved on for good solid reading.

Frank Coleman,
Evansville, Indiana.

(We appreciate what you say about the impossibility of improving AMAZING STORIES, but what we have in mind is to improve it materially during the next year. If we can do so, we would have it continue to be your friend, to whom you have been faithful for so many months.—EDITOR.)

SEQUELS WANTED TO SOME OF OUR STORIES

Editor, AMAZING STORIES:

Will you please urge J. Rogers Ullrich to write a sequel to "The Moon Strollers?" What will later explorers find in the city the first strollers discovered? Now that the moon has been reached, in fiction, Mars is naturally next. Especially now as we know that there are people on Mars? Are they peaceable or not? Please publish a sequel soon. You once published a story about two time travelers who went into the future and found the world peopled with intelligent ants. The author

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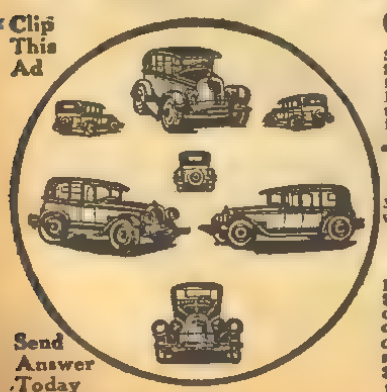

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John T. Adams, Mgr., Dept. C106 323 S. Peoria St., Chicago, Ill.

left the few surviving people in a rather perilous place. When are you going to publish a sequel to that? Also when do we get the *promised* sequel to "The Face in the Abyss?"

William Harrison,
60-39 53rd Street, Maspeth, Long Island.

(We have had stories about Mars, and we hope that Mr. Ullrich will accede to your wishes and give us a good story as a sequel to "The Moon Strollers." But we are afraid that the limitations of size in our magazine and the great quantity of stories which are brought to our desk will make the giving of sequels rather a problem. It is not known whether there are inhabitants on Mars. There is a feeling that it involves great waste if there are no inhabitants on the planets. But the sun is so great a waster that it casts all other inefficiencies into the shade. Only an infinitesimal part of its heat and light are picked up by the planets.—EDITOR.)

A CORRESPONDENT'S "LITTLE SAY"

Editor, AMAZING STORIES:

Well, since I have read every "mag." you have printed since the first, I figure I have a perfect right to my little say. Where I get a lot of my kick is in the "Discussions." I have before me now a fellow that is broadminded, and then he goes on to tell about a certain story that is a lot of bologny. It wasn't long ago that all the smart boys said, after a fellow fell so far, he was dead before he hit the ground, but that has been proven false. And a good many of the inventions to-day are made contrary to all the smart boys' beliefs.

As for the cover:

It was the cover that attracted my attention for the very first publication, and that is really all your cover is good for—I mean to attract new readers, because the old readers only look for the name.

We know what's inside of the cover.

Sy Neigbors,
c/o Irene Johnson, Eureka, California.

(We were very glad to get your "little say." You are right, we should be very slow in pronouncing a thing to be impossible. It is safe to say every great discovery of the last 50 years has met many critics, some who scientifically demonstrated its impossibility, who called it absurd, until it was proved beyond doubt. And what you say about the name, it seems to us, is quite true. It is perfectly clear that if we change the name, many of our old readers would feel as though they were lost. On the other hand, the covers must attract new readers—that is its function. The "Discussions" columns certainly do interest us and whatever the writers may say, whether good or bad, the exhibition of their interest is very flattering—EDITOR.)

A BREEZY LETTER OF HIDDEN APPRECIATION

Editor, AMAZING STORIES:

Knowing that your magazine, AMAZING STORIES, is a comparatively new one, allowances must be made for its quality. It certainly does not compare favorably with the best fiction magazines in regard to quality of paper, print, cover designs, illustrations, etc. But it is improving perceptibly, and no doubt will continue to do so in the future.

I would send Mr. Frank Brueckel, Jr., a textbook on trigonometry, or higher "math," if I knew the date of his birthday. I am sure it would please him far more than the "Moon Pool."

Such stories as the "Moon Pool" are a serious menace to the mental equilibrium of the great minds of our noble country.

Something should be done about it—for instance, give us more of them. There are a few readers, like me, who will martyr themselves by taking a chance on them, and then start yelling for MORE!

Well, anyway, I like "Discussions," and you'll get plenty of knocks in your engine if you cut down on the space devoted thereto.

This is "Our mag," and if it weren't for us readers, there wouldn't be any AMAZING STORIES; so it's up to you to let us air our pet grievances, etc., and also give vent to our irrepressible enthusiasm, via "Discussions."

The stories are fine, and I liked the June issue okay. Even the Jules Verne story is good (for a wonder).

Here's hoping your sons are all marines.

C. H. Osbourne,
Hotel Margaret, San Francisco, Cal.

(We think to-day what we have long thought—that Mr. Merritt's story of the "Moon Pool" was a beautiful piece of fantasy with a very nice touch of science in its pages. We wonder why you want our sons to be marines.—EDITOR.)

The Most Interesting Evening I Ever Spent

UP 'TILL 9 o'clock the party was a complete flop. Nobody seemed to be able to get things going. Then Tom walked in. Tom's a live wire, if there ever was one.

He said he'd heard about a one man show anyone could perform with the help of a book he knew about. He had sent for that book, and said he was going to put on the show.

We thought he was joking, and laughed at him, but he sat us all down in the living room, got out a pack of old playing cards, and started to do things that made our eyes pop out of our heads.

For over 2 hours he made those playing cards almost talk. What he could do with those cards just didn't seem human. After it was all over, the gang all crowded around shaking his hand, and patting him on back. The girls all said, "Oh, Tom! You're wonderful!" It was by far the most interesting evening I had ever spent.

I asked him how he learned it all, for I knew he didn't know a single thing about card tricks a week before. For answer he pulled out a shiny new quarter, and said that one just like it had taught him every trick he had showed us.

And it was a fact! Tom had simply enclosed a quarter with the coupon below, and gotten Walter Gibson's Famous Book of Popular Card Tricks by return mail. You, too, can entertain yourself and your friends with the 101 card tricks it teaches. No slight of hand is necessary—no hard work to learn. Simply read the book carefully and you can do every trick in it.

And it costs only 25c! Send for it today. The demand is great, and we only have a few hundred on hand.

SIMPLY CLIP AND MAIL THE COUPON

EXPERIMENTER PUBLICATIONS, Inc.
Dept. B7, 381 Fourth Ave., New York, N. Y.

I enclose 25c. (in stamps or coin) in full payment for Walter Gibson's Book of Popular Card Tricks, which, it is understood will be sent me by return mail.

Name .....

Street & No. .....

City ..... State .....

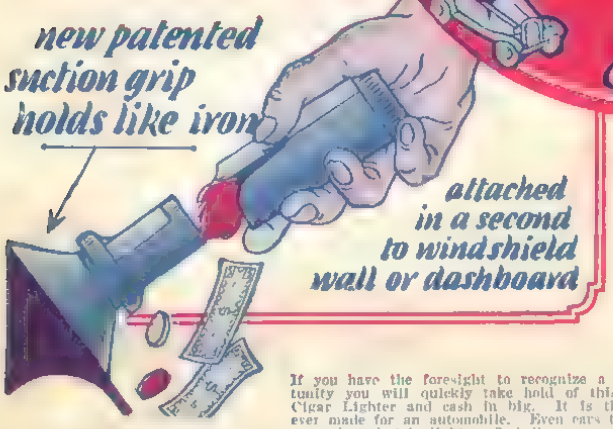
Sensational New "PULL-A-LITE" with ONE HAND WHILE DRIVING

BAKELITE Automobile CIGAR LIGHTER

No Wires-No Batteries-No Tools
JUST PULL
FOR A SURE LIGHT

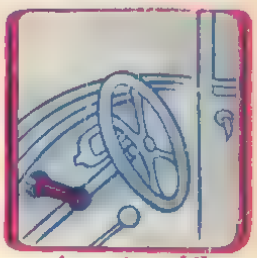
25 MILLION CAR OWNERS AWAIT THIS NEW INVENTION

The new sensational PULL-A-LITE was designed specially to meet the needs of 25 million car owners. Motorists have long felt the need for a popular priced and dependable cigar lighter that works without clumsy wires or batteries. The amazing new PULL-A-LITE now fills that need. It sells to every car owner, in every home and office, and every dealer on a flash demonstration. The automobile accessory field is conceded to be the country's most profitable industry in the country. Statistics further show that during 1928 the firms making the most money were those connected with automobile accessories. If you are to reap the benefits of the prosperity in this industry, now is the time to get into it with PULL-A-LITE Cigar Lighter. No other automobile accessory will sell so largely and so profitably as the PULL-A-LITE Cigar Lighter.



$72.00 PROFIT a Day! ON TWELVE EASY SALES TO DEALERS

If you have the foresight to recognize a new money-making opportunity you will quickly take hold of this new sensational Bakelite Cigar Lighter and cash in big. It is the only dependable lighter ever made for an automobile. Even cars that are now equipped with expensive electric lighters find it more economical and convenient to use PULL-A-LITE Cigar Lighter. The man at the wheel pulls with one hand and gets a sure light while driving. It requires no connection to batteries or wires of any kind. PULL-A-LITE operates on the same principle as the popular, one-hand lighters. Lights instantly by a single pull of a sharp file on a special oversized flint and burns ordinary pocket lighter fluid. No mechanical parts to get out of order. Every pull of the wrist with one hand brings a sure light to the driver, and it can be passed around to the other occupants of the car as there are no wire connections. PULL-A-LITE is attached permanently in a second to dashboard, with the exclusive new patented suction grip. PULL-A-LITE is made of Bakelite in a variety of lustrous colors and makes a decorative addition to every car. It is not only useful for automobiles but can be attached to a convenient place in the home or on the desk in the office. And get this: This lighter fire lighter retails at the surprisingly low price of only $1.00. The lowest priced automobile lighter on the market today is priced at $1.50 and the installation charge is often even more than the price of the lighter. Can you picture the enormous market for the PULL-A-LITE Cigar Lighter?



for automobile, table or desk

If you are the right man to take on an agency, we want you to write us immediately. At the same time, we recommend that you order a dozen PULL-A-LITES at our regular dozen price of $7.50. It will come to you packed in our self selling multi-colored display carton. If you care to, you can quickly and easily sell them out to consumers in an hour and cash in $10.50 clear profit on the dozen. Or you can start right out with the sample dozen taking orders from your nearby dealers to test out the great selling power of this article. Send $7.50 with the coupon or attach $1.00 bill and we will ship a dozen promptly C. O. D. for the balance, or if you want a sample only send $1.00. We guarantee you will make sales from the start or will refund your money. With the sample dozen to start, you can operate all the plans immediately. Full details of the five selling plans will be sent to you at once with your order for sample or dozen. Above all, we urge you to write immediately. Territories will go fast—reserve yours today. Quick action is necessary. **FILL IN AND MAIL COUPON NOW!**

PULL-A-LITE PULLS DOLLARS LIKE MAGNET

The biggest market in the world is your [illegible] for any product ever [illegible]

EXCLUSIVE TERRITORY TO PRODUCERS

Our policy in selling the new PULL-A-LITE Cigar Lighters will be to appoint limited distributors on exclusive territory. We want [illegible] appreciate [illegible] PULL-A-LITE Cigar Lighter [illegible] Reserve your territory before some other [illegible] gets it.

START A WHOLESALE BUSINESS OF YOUR OWN OVERNIGHT—MAKE $72.00 A DAY SELLING TO DEALERS

When we say that you can make $72.00 profit a day on 12 easy sales to dealers we mean just that. And we figure it out for yourself. This new sensational PULL-A-LITE Cigar Lighter retails at the popular price of only $1.50. This brings in $18.00 for a dozen and leaves [illegible] is $12.00 per dozen. In five gross lots our price to you is $6.00 per dozen and you MAKE A PROFIT OF [illegible]. Any experienced salesman [illegible] to dealers with a popular priced article like the PULL-A-LITE Cigar Lighter. You can see at a glance your profit margin is so large that you can [illegible] and pay them a handsome commission. [illegible] dealer along the street is a prospect—garages, [illegible] stores, hosiery stores, hardware stores, novelty shops, drug stores, cigar stores, [illegible] PULL-A-LITE lighters is packed assorted colors in our self-selling display carton illustrated here. This self-selling display carton placed on any dealer's counter will sell the lighters with hardly any attention from the clerk. Keen merchants realize this at a glance and stock the item with no urging from you.

OUR 5 TESTED SUCCESSFUL SELLING PLANS START YOU MAKING BIG MONEY AT ONCE

$10.50 an hour is guaranteed to anyone following any one of the other five plans. You make $10.50 clear profit by selling only one box of lighters to motorists and it will take you less than an hour to do it. If you buy in quantities you make 200% PROFIT SELLING DIRECT TO CONSUMER. All you do is walk up to an automobile, stick the lighter on the dashboard, pull with one hand and then let the prospect select a lighter of any color he may choose from your box. This plan is given to you in detail and shows you how it is done most successfully by other salesmen. Another plan is to get orders by mail without any personal selling. This is our mail order plan. We have created a new mail order circular which is the greatest stunt ever created in the direct selling field, and it will bring you orders and money by mail without selling. Anyone can operate this plan from his own home either in full or spare time. Full details of this plan and a copy of the circular which brings in the orders will be submitted to you with your order for a single sample or a dozen box. Another plan given in detail is the consignment plan. This plan holds unlimited possibilities for the men who can operate in a big way. Another wonder is the initial and emblem plan. You sell every prospect a PULL-A-LITE Cigar Lighter with their own individual initial or their own emblem on the lighter. This special initial or emblem stamps personality and pride on the product and if ever there is a hard prospect this special feature will clinch the sale for you without fail. These initials and emblems are artistically and beautifully designed and can be applied to the car as well as to the cigar lighter. This gives you additional sales and greatly adds to your day's profits.

SEND FOR DOZEN OR SAMPLE NOW! A DOZEN EASILY SOLD IN AN HOUR NETS YOU $10.50 CLEAR PROFIT

GORDON MANUFACTURING COMPANY
Dept. LG-48 110 E. 23rd St., New York City.

Gordon Mfg. Co. (Dept. LG-48), 110 E. 23rd St.
New York City.

I enclose $..... for which please send me order checked below

- ☐ **One dozen Pull-a-Lite** Cigar Lighters, in self-selling counter display carton. Price $7.50. (If $1.00 is enclosed, send one dozen for the balance C. O. D.)
- ☐ **One Sample Pull-a-Lite** Cigar Lighter. Price $1.00. Please send full details of all your sure-fire selling plans with [illegible]

Name .....
Address .....
City ..... State .....

MASTER

Barton's Island

By
Harl Vincent
Author of
"The Seventh Generation,"
"The Ambassador from Mars," etc.

WE consider the present well named the Machine Age. But it is easy to see now that we are a long ways from the limits and perfection of mechanical and scientific inventions. Even those who have recently arrived at the adult age can remember the time when an automobile was not only a rarity, but an awe-inspiring sight and a matter for much wagging of skeptical heads. Yet already the airplane bids fair to being the common mode of long distance transportation within the next few years. New machines are constantly being invented to eliminate more and more labor. Where will all these new inventions—which can almost be predicted with certainty—lead the great masses who depend on their muscle for their livelihood?

In this story, Harl Vincent, himself a scientific man intimately connected with the world of electrical and mechanical inventions, suggests many possibilities. In "Barton's Island" he brings us much beyond "The Seventh Generation," though he does it in his own realistic manner, with plenty of scientific detail.

PRESIDENT Ross Haven, for the past seven years the nominal chief executive of United North America, apprehensively regarded the heavy jowled, red-faced individual who sat across the desk from him in his private chambers in the new executive mansion high above the crystal roof-tops of the great city of Washington. With a sinking of the heart he recalled that he was completely in the power of this unscrupulous master of men, who had reached the position of virtual dictator in the world-feared republic that was formed after the disastrous Eurasian war of 2179-2191. Entering that frightful holocaust late in 2188, the United States of America had emerged victorious and with most of the world's wealth in her possession, including title to the Dominion of Canada. Now, in 2229, with Europe, Asia and Africa not yet recovered from the terrible ravages of the great war, United North America, with a population of more than a half billion, dominated the world with a ruthless and iron-gloved hand. And Jerome Carter, the President's visitor, dictated its policies.

"I can't do it, Carter," stubbornly stated the President.

Carter leaned his huge bulk forward in his chair, tapping the glass-topped desk with a pudgy forefinger. The President's slight form seemed to wither beneath the baleful glare that came from the deep-set, piggish eyes of his caller. His care-worn face sagged, and its lines deepened into the furrows of approaching old age.

"Oh, but you can do it," said Carter, with a meaning grimace, "Otherwise it's—assassination!"

'You wouldn't dare," whispered Haven.

"Wouldn't I? Who do you suppose was responsible for the passing of the recalcitrant Selwin, former Secretary of Labor?"

Haven started. "You didn't—" he faltered.

"I did," chuckled Carter, gloatingly, "And you'll not use it to my harm either. Apoplexy, the physicians called it. But my chemists know how apoplexy can be brought on quite simply and surely."

"You—you—beast!" stammered the President.

"I forgive you the insult, Mr. President," sneered Carter, with mock deference. "But, are you ready to listen to reason now?"

Haven became propitiatory. "Perhaps, after all, you are right," he offered. "You have not given me your reasons in full, you know."

"That is better. And I know this has come to you as a shock, Philip Barton being your own son-in-law. It is entirely due to that relation that he has not already been—removed—as was Selwin. I have a deep affection for you, Mr. President, and for your sweet daughter who was so unfortunate as to have married this Barton. But Barton is dangerous and must be removed from our fair country. In deference to your feelings, I am proposing that he be merely exiled and, in all fairness, I am willing that his wife and certain of his boon companions accompany him. I swear that no violence will come to any of the party, but he must be exiled."

With this hypocritical speech, Carter thrust a paper into the President's hand. "Sign!" he commanded.

* * *

TWO hours later the public and private news-speakers throughout all North America repeated the astounding information, that the President had decreed banishment for his own daughter and her husband. It was during the mid-day rest period for the workers, and, in the lower levels of the great cities, thousands of gray-clad toilers slipped from the moving ways to gather in the squares where the huge instruments of the Newscasting Corporation blared forth the announcements from Washington. Pasty-faced laborers, who had not seen the light of day in many months, gazed understandingly and hopelessly at each other, as the significance of the governmental proclamation became evident. For Philip Barton was the friend of the subservient multitude in gray.

In New York, the great center of population which spread its crystal roofs a full fifty miles along the Hudson River and housed more than sixty million souls, a little group gathered in secret behind one of the great pillars that extend from the third sub-level to the fortieth upper level of the city in Cooper Square. A small group it was indeed—not more than twenty men and girls—but they were staunch and loyal supporters of that figure now most in the public eye, Philip Barton. They had eluded the watchful eye of the law, personified by the red-clad police, who were well paid and luxuriously housed by the plutocracy.

¶ An island of considerable size had been pushed above the surface by subterranean volcanic action, and the internal fires were being extinguished by the inpouring of the ocean.

By the Author of "The Biological Experiment,"

"The Revolt of the Pedestrians," etc., etc.

¶ The pumping machines are being built very rapidly.... We must be ready by September.

The Eternal Professors

By David H. Keller, M.D.

WITH apparatus that was definitely crude, Doctors Tchechulin and Brukhenenke, performed phenomenal experiments that proved almost miraculously successful, when they found that a head, severed from the body of a dog, was kept alive by means of a mechanical heart or by artificial circulation. Further tests showed that this severed head responded to certain stimuli in much the same manner that the head of a live dog would have reacted to similar stimuli. This opens vistas of possibilities, for what might not be possible when this apparatus is perfected and progressive experiments have been made? In this story by Dr. Keller, who is not only a physician, but has a record of thirteen years of psychiatric practice behind him, also, we are allowed an absorbing glimpse into a vision of possible future achievements. We have often wondered how the individual's accumulated knowledge might be used.

THE great universities of Chicago and New York were in constant conflict. Each was determined to be known as the greatest American seat of learning. For years the rich men of each metropolis had competed with each other in the endowments that they gave to their favorite university. Famous educators from all parts of the world had been induced, by magnificent salaries, to come to one or the other of the two universities. In fact, the cream of modern intelligence was centered around these two schools. Had the two faculties suddenly died, it would have been an absolute impossibility to replace them by other such teachers.

And not only educators were lecturing at these colleges. Men of renown in every walk of life were giving courses in their specialties, and these special courses were considered as a very great factor towards the necessary culture of the young students. Novelists, actors, poets, economists, politicians, explorers, all were eagerly sought, the two schools bidding against each other for the right to claim them as members of their respective faculties.

The tremendous funds available at each city made possible contracts with these men, lasting throughout their lifetime. Their intellectual efforts were literally sold, completely and permanently, till the day of their death, and even after their death their salaries were to continue as long as any dependents survived them. For many years this effort of each city university to secure only the very best intellects in the world continued; it came to an end only when every noted educator, scientist, or expert in literature had a permanent contract with the one school or the other. The conflict ceased for a while because of lack of material to fight over.

When the lull came, it is only the truth to say, looking at the schools from an unbiased viewpoint, that the two faculties were rather evenly matched. Each had over two hundred supermen, who daily lectured to large classes of enthusiastic students. Each city claimed its college as the greatest in the world, and the rivalry might have been beneficial and mutually inspiring had it not been for an unfortunate enthusiasm on the part of some of the New Yorkers, which resulted in the serious injury and final death of several of the most brilliant of the Chicago professors.

The friendly contest at once degenerated into a bitter internecine warfare. The University of New York expressed its regret at the unfortunate happening, but the Chicago University scorned the apologies. All relations between the two schools ceased, and the contest to secure the highest enrollment was more determined than ever. It was now not a question of lowering the tuition rate, but of actually subsidizing students to leave one city and seek their education at the other.

This condition lasted for a year. The feeling was tense, but it was hoped, by the cooler minds, that ultimately the bitterness would disappear. Then, like the sudden dawn in the tropics, a catastrophe struck the New York faculty. For a while the cause was as mysterious as it was damaging to the future hopes of the Eastern university. Within a few weeks practically every member of the teaching force of the New York university developed the preliminary symptoms of malignant cancer. So uniform was this occurrence, so simultaneous was it in its development, that only one conclusion could be reached by the medical men of New York who were in charge of the secret investigation. They were sure that, in some way, the entire faculty had been inoculated with the deadly germs. Then one of the doctors remembered that a month before, practically every member of the faculty had been present at a banquet given in honor of the president of the university. It must have been that the unsuspecting diners had been fed some unknown germ then.

It was truly an unknown type of cancer cell, and the resulting disease was also absolutely new to medical science. The trouble started in the feet and, while it did not at once disable the victim, there was every indication that it would prove fatal within a few months.

Though it seemed to resemble, in some details, the giant celled sarcoma, it had certain characteristics that were different, certain peculiarities that made it particularly hopeless to the New York scientists. It was a threatening danger that spelled doom to the future hopes of the wonderful university. Unless something could be done, unless this deadly danger was successfully fought by every form of ultra-scientific medicine and surgery, then not only would these two hundred men die, but with them would die the greatness of the metropolitan seat of learning. This faculty could not be replaced, and Chicago would at once leap to the fore as the most important seat of learning in the world. The work of patient years would be set at naught, the efforts of a generation would be obliterated in a few months.

The professors told of their fate and faced the inevitable with the calmness that might be expected of philosophers and scientists. Feeling confident that they had no souls, they viewed with disdain the certain dissolution of the bodies which housed the nerve cells, which, when functioning, enabled them to think. They felt that if the most celebrated surgeons and physicians in New York said that they were doomed, it was useless for them to worry. Their dependents were provided for, their memory was certain to be preserved in the sacred archives of the college library. They, having made education a vital force in New York, now needed no other monument. In a few weeks the summer vacation would begin, and they all felt that they would be able to finish their lectures. During the summer vacation they could dictate their memoirs and prepare to die like gentlemen. The only thing they had to worry about was the fact that they were not sure as to what they were dying of, or what part, if any, the University of Chicago played in the tragic happening.

A mantle of silence was spread over the entire matter. No man who could not be trusted was allowed to partake of the secret. The faculty had decided that they would die without giving Chicago the satisfaction of knowing that they were dying.

COINCIDENT with this tragedy, a remarkable visitor came to America. He was none other than Professor Chenenko of Leningrad. For many years this biologist and vivisectionist had been working in his laboratory, allowing the world to remain in ignorance of his efforts. His obscurity was not a deliberate concealment on his part, but was simply due to the fact that he had been so intensely interested in his lifework. Now he had reached the point at which it was not only necessary for him to have more help; he also needed far greater financial assistance than he possibly could

The Dimension Segregator

By J. Harold Click

¶ *The doctor looked silly and hastily put his arm behind his back. But Theda made him withdraw it. Surely enough his hand seemed neatly severed at the wrist.*

EVER since Einstein started the talk about the fourth dimension and relativity, there has been little abatement of interest in the subject. For most of us, however, this matter is hardly cleared up by much reading on the subject. On the contrary, it seems that each time a point is definitely cleared up, the next tome on the subject completely disproves your conclusions.

But, in the words of the scientist, who is the hero of this story, "we should learn something first of the two-dimensional world, if we expect to learn anything of the fourth-dimensional world." It seems to us there is much wisdom in that thought. Our new author, apparently agrees with his hero and proceeds to listen attentively to his explanations and watch his demonstrations, all of which is done in layman style.

We suggest you join the author and us.

I HAVE known the late Dr. Thorndyke for over twenty years and have found him to be an unusually truthful man not at all given to exaggeration or misrepresentation. It is true that for a time after the great Bennett University earthquake and fire disaster, in which he almost lost his life, he was considered mentally unbalanced from the effects of a blow on the head. But everyone agrees that he fully recovered and ceased to be troubled by his so-called hallucinations.

Knowing the man as I did, I can't doubt the truth of the marvelous story which he had typewritten and attached to his last will and testament. I, myself, have seen the two-dimensional guinea pig and the strangely distorted bust of Shakespeare; also I can attest to the fact that the brown eye and the green eye of Gyp changed positions about the time of the earthquake. Without further explanation, I will let you have the story just as Dr. Thorndyke wrote it himself, so that you can be your own judge of its probability.

Thorndyke's Story

TO whomever it may concern: Being the only living man who witnessed the demonstrations of the so-called dimension segregator (unless Phil and Theda make their return to the three-dimensional existence) I consider it my duty to leave to posterity all my knowledge of the said machine and a description of the experiments performed with it in my presence.

After repeatedly having tried to convince the world of the actual existence of the machine and its wonderful performances, only to be judged insane, I decided to refrain from discussing the matter further. I worked in secret in the attempt to discover the nature of the wonderful segregating ray but without success.

Now, realizing that my remaining years on earth are but few, I am having this manuscript prepared to leave to posterity, so that, if the ray is rediscovered after my death, the credit may go where it belongs—to Philip Tulane; also that the rediscoverers may use what knowledge I have, in their experiments. I am writing from memory. But though it has been twenty years since the occurrence of the wonderful phenomena described herein, they have been continually in my thoughts, and I have not omitted a single detail of importance.

I WAS an Instructor in the School of Electrical Engineering at Bennett University at Bennettsville, California, and Philip Tulane was an Instructor in higher mathematics. I was ten years older than he, but we grew to be warm friends. Our friendship was not the kind based on social equality or anything like that. Neither of us had time or inclination to mingle in the social life of the campus. We both spent most of our spare time in dabbling in the sciences outside our regular lines. My amateur experiments in biology and astronomy never produced any results, unless it was a lessened efficiency as an electrical engineer. But with Phil it was different. His hobbies were Chemistry and Physics, and he made several notable discoveries in these sciences.

Among his discoveries was the strange substance which I named "Tulanium" in his honor. I don't know whether this substance was like that which has been called Nutronium or not. I do know that it was produced by reducing iron to absolute zero by means of complicated compression refrigeration. This Tulanium was infinitely hard, dense, and very heavy. He explained to me that at the temperature of absolute zero all molecular vibration ceased. He even claimed that the spaces between the atoms and molecules were closed up so that it was an *absolute solid*. I don't know about that, but I do know that it was not affected by heat and

The Grim Inheritance

By Carl Clausen

MUCH is being written now about glands. The action of the endocrine secretions has a definite effect on the human system. It is almost appalling when we consider the vast harm a gland which is not functioning properly can have on the well-being and health of an individual.

The story of the endocrine gland is aptly woven into a scientific detective story of definite merit. We know you will enjoy reading the story as much as we have.

An Unexpected Development

AUSTIN CRANE'S earliest recollection was that of having to take his medicine, literally speaking. Every morning his nurse would give him an orange-colored transparent capsule. He was warned not to chew it like candy, but to swallow it right down with the drink of water which she had ready for him. This recollection dated back to a period when he was between three and four years old.

The first nurse he remembered had worn puff sleeves. Some years later, at the age of eight, Austin had come across a fashion plate in an old magazine. All the figures wore puff sleeves. He had wondered mildly to whom these ladies fed orange-colored capsules before breakfast.

Being an inquisitive child he had also wondered about certain other things. Why, for instance, was he not permitted to go to school with other children? The big handsome schoolhouse with its Doric columns had always fascinated him. When he rode past it with his tutor, and Culp, the liveried chauffeur slowed up the car at the school crossing, Austin would peer through the glass at the words, "Knowledge is Power" which were chiseled in gold letters above the door. As he watched the army of shouting children at play, an almost uncontrollable impulse to fling the door of the car open and to run out and join the shouting mob would sweep over him. He wanted to yell with them, to be yelled at by them and above all he wanted to be let in on his share of the power which was advertised in the golden letters above the door.

At such moments he vaguely felt that somehow or other life had cheated him, that there was something lacking in his existence which neither Culp, the chauffeur, Sims the butler, Mr. Henry, the tutor, or his mother could supply. He also felt that a sort of conspiracy to cheat him of something, he hardly knew what, was going on between these people and old Doctor Goldwin, who came down on the first of every month and looked over and left a fresh supply of orange-colored capsules with his mother.

It was on one of these monthly visits when Austin was eighteen years old that he overheard a discussion of himself between her and the doctor. He had not meant to be eavesdropping. He was coming down the soft-carpeted stairway when he heard the voices of his mother and the physician in the living room. Doctor Goldwin said:

"The boy is entering young manhood with every normal manifestation. You need not worry. He is a perfect specimen of manhood. His physical and mental status is decidedly above par."

Austin heard his mother reply:

"But suppose he wishes to marry some day—and the day must inevitably come?"

"I see no reason why he shouldn't," the doctor had replied.

Austin tiptoed back upstairs to his room. He pondered deeply upon what he had overheard. He wondered what they had meant. If there was anything wrong with him he wanted to know it. He decided to speak to his mother about it that night after Doctor Goldwin had gone, but abandoned the idea when he remembered that in doing so he would indict himself for eavesdropping. The physician's words, "He's a perfect specimen of manhood," kept ringing in his ears. What did Doctor Goldwin mean? And why shouldn't he be a perfect specimen?

He crossed to the window and stood looking out into the Long Island Sound. In the cove at the foot of the garden his sloop lay moored. His mother had bought it for him two years before, and on fine days he and Mr. Henley cruised about the Sound in it. Beyond the wide, sun-hot expanse of the Sound the low cliffs of the Connecticut shore lay traced faintly in the late afternoon mist. He wondered what manner of people lived there. He felt suddenly a strong desire to go and see—to bolt from the odious restraint of his daily routine of lessons, exercises, and walks and to escape the spying eyes of Sims, Culp, Mr. Henley and his mother.

Turning, he walked to the cheval mirror at the end of the room. He looked himself over critically. He could judge himself only by comparison with the few people with whom he came in daily contact. He knew that he was taller than Mr. Henley, the tutor, almost as tall as Culp, the chauffeur, and that he carried himself nearly as straight as Sims, the butler; certainly with more ease. He knew that his blue eyes were much clearer than Culp's and that his light hair was of much finer quality. He wondered if these were signs of perfect manhood. He had always rather admired the chauffeur's wiry hair and the way Culp wore his cap pulled forward over his shaggy eyebrows.

HE had thought about this episode for weeks. He was burning to know about himself, but he knew

He raised his head with an angry snarl, but the snarl turned to amazement when he found himself looking into the bore of an automatic pistol, which to his bulging eyes looked like the end of a section of a drain pipe.

THRILLING WONDER

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